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Canada Pension Plan Mortality Study

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FOREWORD

This study provides an overview of historical and future mortality trends in Canada as assumed under the Twenty-Third Canada Pension Plan (CPP) Actuarial Report. The study also reviews the mortality experience of CPP retirement and survivor beneficiaries by gender and level of pension.

In 2005, life expectancy at birth in Canada stood at 78 years for males and 83 years for females. This significant increase in life expectancy at birth since the start of the 20th century of 27 years for males and 31 years for females is the result of the decrease in age-specific death rates over that period.

In Canada, most of the increase in life expectancy at birth over the last thirty years has come from improvements in mortality at ages 65 and over while prior to that time most of the increase in life expectancies at birth came from mortality improvements at ages under 65. As a result, over the last 30 years, life expectancy at age 65 has increased from 14 to 18 years for males and from 18 to 21 years for females. More recently, male mortality improvement rates have been greater than for females. This has contributed to the recent narrowing of the gap in life expectancy between males and females.

Taking into consideration the increasing "squaring" of the survival curve which is due to lower mortality rates up to the advanced ages without much change to the maximum age to which humans can live, the Twenty-Third Canada Pension Plan (CPP) Actuarial Report projects smaller increases in life expectancy at birth than what was experienced in the past.

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I. Executive Summary

A. Purpose of Study

This is the second Canada Pension Plan (CPP) mortality study published by the Office of the Chief Actuary (OCA). It presents an overview of Canadian population mortality trends over the last century as well as the results of a mortality study of CPP retirement and survivor beneficiaries. The Canadian Human Mortality Database[1] (CHMD) Life Tables are used as a mortality benchmark to compare the mortality trends with the general population and with CPP beneficiaries' population.

OCA will use the results of this study to assess the mortality of the Canadian population and of CPP retirement and survivor beneficiaries when producing its next CPP triennial Actuarial Report.

B. Scope of Study

The first section of this study provides an overview of the historical trends in Canadian mortality and mortality improvement rates over the period 1900 to 2005. The second section describes the mortality assumption used in the Twenty-Third CPP Actuarial Report (AR23) projections. The third and fourth sections present the mortality experience of CPP retirement and survivor beneficiaries in comparison to the estimated CHMD life tables for Canada less Québec.

C. Main Findings

General Population

- The increase in life expectancy at birth was quite rapid in the first 70 years of the 20th century. Over this period, mortality improvements rates experienced under the age of 15 accounted for most of the change in life expectancy.
- Mortality improvements have slowed down since the 1970s, more so for females than for males. Because of this, there has been a narrowing of the gap between male and female mortality.
- The maximum age to which humans can live (maximum life span) has not significantly increased over the years. One reason is that most of the observed mortality improvements have occurred at ages 90 and below.
- A life expectancy at birth of 100 years is practically impossible to achieve in the next half century unless there are dramatic medical and scientific breakthroughs. To reach it would require no mortality up to age 96.
- If mortality was to improve at the current rate observed over the last 15 years it would take 140 years before male life expectancy at birth would reach 100 years. For females it would take 121 years. Alternatively, if mortality was to improve at twice the rate

[1] Website address http://www.bdlc.umontreal.ca/chmd/index.htm

observed over the last 15 years for males and four times the rate observed for females then it would be achieved in about 50 years.

Mortality Projections in CPP Context

- Based on the assumptions of the Twenty-Third CPP Actuarial Report, life expectancy at birth for Canada less Québec is expected to increase from 78 years in 2005 to 85 in 2075 for males and from 83 years to 88 years for females. Accordingly, the gap in life expectancy at birth between males and females narrows from 5 years in 2005 to 3 years by 2075.

- The probability of a male contributor age 18 reaching the normal retirement age of 65 is expected to increase from 86% in 2005 to 93% by 2075; the corresponding figures for a female are 91% and 95%, respectively.

- Life expectancy at age 65 is projected to increase by 4.4 years (from 18.0 years in 2005 to 22.4 years in 2075) for males and by 3.5 years (from 21.1 years in 2005 to 24.6 years in 2075) for females.

- Approximately 70% of the projected increase in life expectancy at birth is due to the expected increase in life expectancy at age 65.

- The number of years lived after reaching age 65 has substantially increased since the inception of the CPP in 1966. In 1966, 35% of males aged 65 died within 10 years and only 9% lived for more than 25 years. In 2075, only 10% of males aged 65 are projected to die within 10 years and 44% are projected to live for more than 25 years.

- The same trend is observed for females. In 1966, 22% of females aged 65 died within 10 years and only 18% lived for more than 25 years. In 2075, only 8% of females aged 65 are projected to die within 10 years and 53% are projected to live for more than 25 years.

CPP Retirement Beneficiaries

- For both males and females, retirement beneficiary mortality rates at ages 60 to 64 are lower than for the general population because retirement beneficiaries between the ages of 60 and 64 do not include any CPP disability beneficiaries and are thus healthier than the general population.

- For male beneficiaries, mortality rates after age 65 are higher than for the general population. This is somewhat an unexpected result since male retirement beneficiaries, who comprise 97% of the male population at age 65 and over, are generally thought to have a higher socio-economic status than the remaining 3% of the male population, and should therefore have lower mortality than the general male population. Part of the answer could lie in the difference between the census survey data used in constructing the CHMD Life Tables and administrative data relied upon.

- For female beneficiaries, mortality rates are similar to the general population until age 85. After that age, mortality rates are about 2 to 3% higher than for the general population.

- Over the past 15 years ending in 2005, male beneficiaries have seen a cumulative reduction in their mortality rates of 26%, while it was 15% for females. Males aged 65 to 69 have experienced the biggest reduction in mortality while females aged 90 to 95 have seen the biggest increase in their mortality rates.
- Beneficiaries with higher pensions experience lower mortality than beneficiaries with lower pensions. The trend is the same for both sexes.
- At age 60, male beneficiaries with a maximum pension live three years longer than male beneficiaries with a lower pension. The same trend, albeit smaller, is observed for females at two years. The pension amount impacts more the mortality of males than females.
- Over the past 15 years ending in 2005, male beneficiaries at the two extremities of income, i.e. those with the lowest and highest pension have experienced the highest reduction in their mortality rates. This trend is similar for females, although less pronounced.

CPP Survivor Beneficiaries

- CPP survivor beneficiary mortality is higher than that of the general population. One reason might be that survivors are deeply affected by the loss of their spouse, especially at the older ages where the survivor may already be in a weakened condition. Also in some cases one could assume that losing part of the primary source of income adds stress to the survivors.
- CPP survivor beneficiaries tend to live one year less than the general population. As they age, their life expectancy converges to the life expectancy of the general population.

D. General Conclusions

Major medical advances and improvements in the quality and standard of living over the last 100 years have increased life expectancy at birth by almost 30 years. However, a great deal of medical research is still required to increase life expectancy even further. One proof is that mortality improvements have recently shown signs of slowing down for females. The greater slowdown in mortality improvements for females in recent years has narrowed the gender gap in mortality.

Future mortality improvements are expected to come more slowly and at older ages, as mortality rates at younger ages are already very low. In the context of the Canada Pension Plan, more and more contributors are expected to reach the normal retirement age of 65 and receive a pension. In comparison with year 2005, male retirement beneficiaries are by 2050, expected to receive their benefit for an additional 3.3 years and for an additional 2.3 years for females.

The results of this study show that the higher the CPP retirement pension, the lower the mortality. While CPP survivor beneficiary mortality is significantly higher than the general population mortality, it gradually converges to the general population mortality at advanced ages.

II. Canadian Mortality Trends

A. Introduction

This section provides an overview of the mortality and associated mortality improvement rates experienced by the Canadian population over the period 1900 to 2005. Like the rest of the industrialized countries around the world, Canada has seen significant improvements in life expectancy over the last century. Improvements in the standard of living and in working conditions, implementation of good health care programs and tremendous gains in the medical domain have all contributed to an increase in life expectancy.

B. Historical Canadian Mortality

Table 1 and Chart 1 show the evolution of Canadian life expectancy at birth and at age 65 from 1900 to 2005 using the Canadian Human Mortality Database which is an achievement of the Mortality and Longevity research team at the Department of Demography, Université de Montréal, under the supervision of Professor Robert Bourbeau, in collaboration with demographers at the Max Plank Institute for Demographic Research (Rostock, Germany) and the Department of Demography, University of California at Berkeley.

Table 1 Evolution of Life Expectancies 1900-2005 (Canada)

	Life Expectancy at Birth			Life Expectancy at Age 65		
Year	Males	Females	Difference	Males	Females	Difference
1900*	51.1	51.4	0.3	14.2	14.8	0.6
1910*	54.4	55.3	0.9	13.8	14.3	0.5
1921	56.0	58.2	2.2	13.3	13.9	0.6
1925	58.1	60.5	2.4	13.1	13.8	0.7
1930	57.6	60.3	2.7	12.9	13.9	0.9
1940	62.5	65.7	3.3	12.8	14.1	1.3
1950	66.2	70.6	4.4	13.3	15.0	1.7
1960	68.2	74.2	5.9	13.6	16.2	2.6
1965	68.8	75.2	6.4	13.6	16.7	3.1
1970	69.3	76.3	6.9	13.8	17.5	3.7
1975	70.0	77.2	7.2	14.0	18.0	4.0
1980	71.6	78.7	7.1	14.5	18.7	4.2
1985	73.0	79.7	6.7	14.8	19.2	4.3
1990	74.2	80.6	6.4	15.5	19.7	4.1
1995	75.0	81.0	6.0	15.9	19.8	3.9
2000	76.7	81.8	5.2	16.8	20.3	3.6
2005	77.9	82.5	4.7	17.8	20.9	3.1

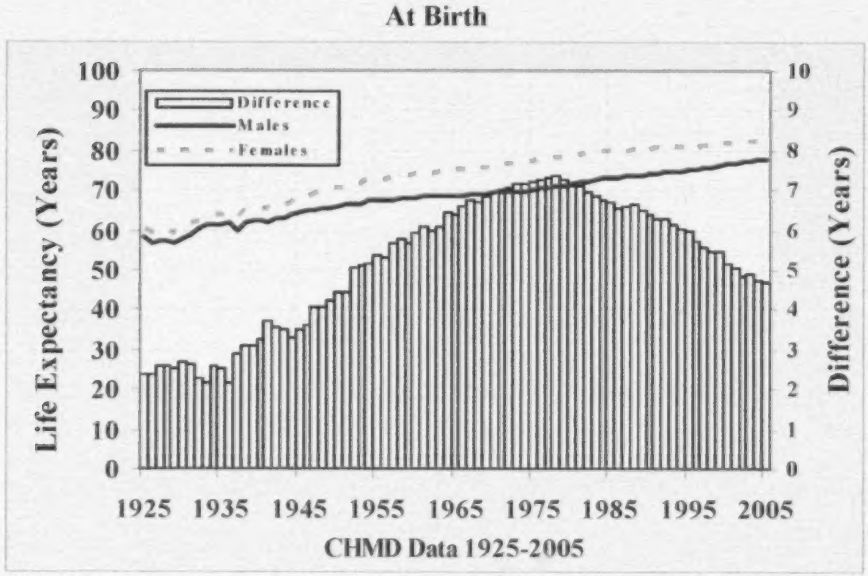
* Life expectancies for 1921 to 2005 are from the CHMD. Pre-1921 life expectancies were estimated from available Life Tables for Canada (LTC) as published by Statistics Canada.

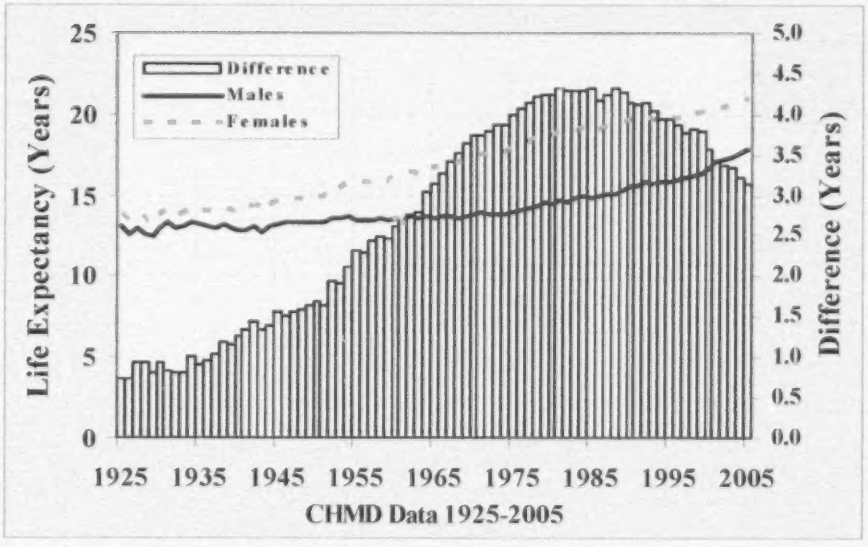
Over the last-century, most of the increase in life expectancy at birth has occurred before 1970. Since 1970 life expectancy at birth has increased by about nine years for males and six years for females. This is much less than the increase of about 18 years for males and 25 years for females experienced from 1900 to 1970.

For both genders, most of the increase in life expectancy at age 65 has occurred after 1960. Over the period 1960 to 2005, life expectancy at age 65 has increased by about four years for

males and five years for females, but over the more recent period from 1985 to 2005, life expectancy at age 65 has increased by three years for males and by two years for females.

Chart 1 Life Expectancies: 1925-2005 (Canada)





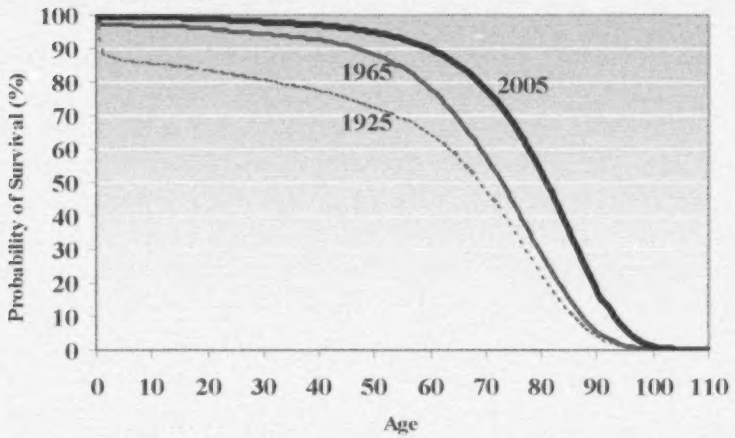
The oldest recorded death is for Jeanne Calment (France) who died at the age of 122 (in 1997) and she may be considered an exception. As evidenced by information published in the website http://en.wikipedia.org/wiki/Oldest_people, the maximum age to which humans

have lived over the last century is below 120 years. This suggests that the current increase in life expectancy due to medical discoveries and a better standard of living cannot do much to alter the fact that with time the human body is continuously aging and that the oldest age to which humans can live has not increased significantly over the last century.

Chart 2 shows the population survival curves (probability a newborn will survive to a given age) based on CHMD mortality rates for years 1925, 1965 and 2005. The "squaring" of the survival curve is due to lower mortality rates up to advanced ages without much change to the maximum age to which humans can live.

Chart 2 Survival Curves (Canada)

Males



Females

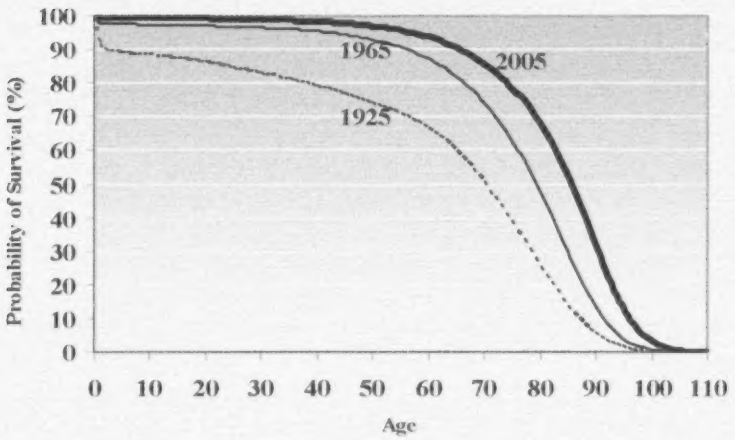
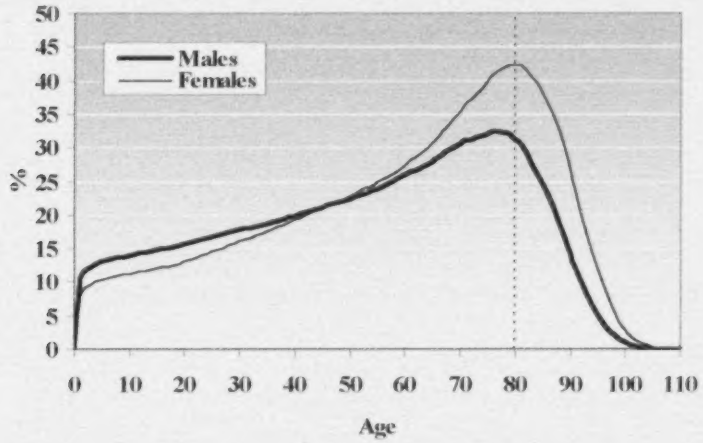


Chart 3 shows the difference of survival rate between the 1925 and 2005. In 2005, 68% of females reached age 80 while this percentage was only 26% in 1925 for a difference of 42%. This pattern is similar for males with 54% reaching age 80 in 2005 compared to only 23% in 1925 for a difference of 31%.

Chart 3 Change in Probability of a Newborn Surviving to a Given Age (1925 vs. 2005, Canada)



More people are now surviving to advanced ages. On a calendar year basis, in 1925 a male newborn had a 57% probability of reaching age 65 while a female newborn had a 60% probability; by 2005 those probabilities had risen to 85% and 91%, respectively. Furthermore, in 1925 a cohort of newborns would have lost half of its members by age 69 for males and by age 71 for females. In 2005 the age by which half of the cohort of newborns would have died is 81 for males and 86 for females, an increase of 12 and 15 years respectively.

It is also interesting to consider over time the range of ages in which a given percentage of deaths are expected to occur. For instance, Table 2 shows the progression over time of the age range in which 70% (between the 15th and 85th percentile) of deaths are expected to occur. The historical large gains in life expectancy can be seen from this table. Based on period life tables of 1925, about 70% of males could expect to die between the ages of 12 and 83; that is, 15% (in the bottom 15th percentile) of males died prematurely before age 12 while 15% (in the top 85th percentile) who were the strongest died after age 83. By 2005, this range had both moved forward and narrowed to an age range of 66 to 91. A similar shift and narrowing in range can be seen for females. Again, this trend is expected to continue in the future, but at a slower pace compared to the past.

Although life expectancies are projected to increase in the future, it is plausible that health and environmental factors may counteract the degree of this increase. The rising incidence of obesity in both children and adults and the ensuing risk of related complications later on in life, such as diabetes and heart disease, could act to reduce future projected gains in life expectancy. The threat of worldwide pandemics resulting from virulent forms of infectious diseases is also a reality, which could impact longevity.

Table 2 Evolution of Distribution of Age at Death (Canada)

Year	Males			Females		
	Bottom 15%	15% to 85%	Top 15%	Bottom 15%	15% to 85%	Top 15%
1925	(0-11)	(12-83)	(84+)	(0-23)	(24-84)	(85+)
1950	(0-49)	(50-84)	(85+)	(0-55)	(56-87)	(88+)
1975	(0-55)	(56-85)	(86+)	(0-64)	(65-91)	(92+)
2005	(0-65)	(66-91)	(92+)	(0-70)	(71-94)	(95+)
2025	(0-69)	(70-93)	(94+)	(0-73)	(74-95)	(96+)
2050	(0-71)	(72-94)	(95+)	(0-75)	(76-97)	(98+)
2075	(0-73)	(74-95)	(96+)	(0-77)	(78-98)	(99+)

C. Historical Mortality Improvements

This section presents the historical mortality improvement rates for different age groups and 15-years time periods, based on data from the CHMD. Annual mortality improvement rates are defined as the ratio of mortality rates over a one-year period. Table 3 provides an overview of the population-weighted average annual mortality improvement rates in Canada over various 15-year periods from 1930 to 2005.

Table 3 Average Annual Mortality Improvement Rates (Canada)

Age Group	1930-1945		1945-1960		1960-1975		1975-1990		1990-2005	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
< 1	3.6%	3.4%	3.9%	4.0%	4.5%	4.5%	4.8%	4.9%	1.8%	1.4%
1-14	3.6%	4.1%	5.0%	5.9%	2.0%	1.7%	4.6%	4.1%	3.6%	3.8%
15-44	2.0%	3.5%	2.1%	5.4%	-0.3%	0.4%	2.6%	2.7%	2.6%	1.4%
45-64	-0.1%	1.2%	0.3%	2.3%	0.5%	1.1%	2.7%	1.9%	2.3%	1.5%
65-84	-0.1%	0.5%	0.3%	1.3%	0.3%	1.7%	1.2%	1.3%	2.2%	1.3%
85-89	-0.1%	-0.1%	0.7%	0.8%	0.5%	1.3%	0.5%	1.1%	1.2%	0.7%
90-109	-0.2%	-0.1%	0.3%	0.4%	0.4%	0.7%	0.2%	0.7%	0.6%	0.2%
0-64	1.2%	2.3%	1.2%	3.3%	0.6%	1.2%	2.8%	2.3%	2.4%	1.5%
65-109	-0.1%	0.3%	0.3%	1.0%	0.4%	1.4%	1.0%	1.1%	1.8%	1.0%
0-109	0.4%	0.9%	0.7%	1.6%	0.4%	1.4%	1.6%	1.4%	2.0%	1.1%

Note: Each rate was obtained by a regression of the crude death rates (total annual deaths as a proportion of the CHMD population) from the beginning to the end of the 15-year period, using the 2005 CHMD population as a base.

1930-1945

Over this period, mortality improvement rates for females were in general greater than for males. The mortality improvement rate for age group (0-64) was 1.2% for males and 2.3% for females while the mortality improvement rate for the older age group (65-109) was -0.1% for males and 0.3% for females. The mortality improvement rate for all ages (0-109) was 0.4% for males and 0.9% for females.

1945-1960

In all age groups, both genders experienced mortality improvement rates in this period that were greater than they had experienced in the previous time period 1930-1945. The mortality improvement rate for age group (0-64) was 1.2% for males and 3.3% for females while the mortality improvement rate for the older age group (65-109) was 0.3% for males and 1.0% for females. The mortality improvement rate for all ages (0-109) was 0.7% for males and 1.6% for females.

1960-1975

Except for the age group categories of child (1-14) and young adults (15-44), the level of mortality improvement experienced in this period was greater than in the previous period 1945-1960. The mortality improvement rate for the age group (0-64) was 0.6% for males and 1.2% for females while the mortality improvement rate for the older age group (65-109) was 0.4% for males and 1.4% for females. The mortality improvement rate for all ages (0-109) was 0.4% for males and 1.4% for females.

1975-1990

Except for males aged 90 and over and females in the age group category of 65 and over, the level of mortality improvement experienced in this period was greater than in the previous time period 1960-1975. The mortality improvement rate for the age group (0-64) was 2.8% for males and 2.3% for females while the mortality improvement rate for the older age group (65-109) was 1.0% for males and 1.1% for females. The mortality improvement rate for all ages (0-109) was 1.6% for males and 1.4% for females.

1990-2005

Except for males aged 65 and over, the level of mortality improvement experienced in this period was lower than in the previous period 1975-1990. The mortality improvement rate for the age group (0-64) was 2.4% for males and 1.5% for females while the mortality improvement rate for the older age group (65-109) was 1.8% for males and 1.0% for females. The mortality improvement rate for all ages (0-109) was 2.0% for males and 1.1% for females.

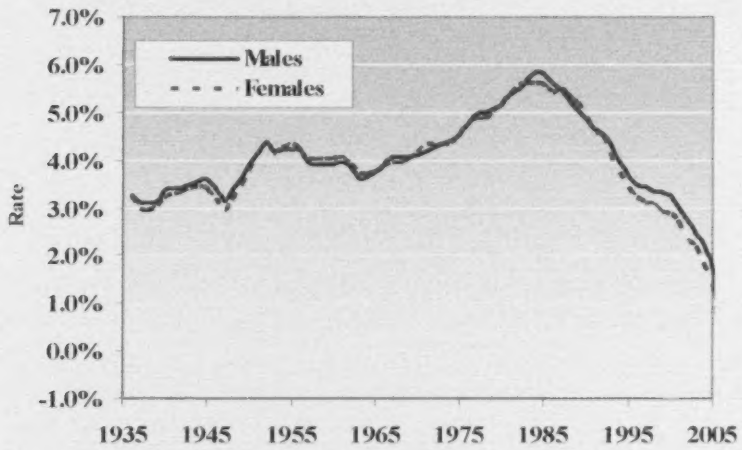
Analysis of Mortality Improvement Rates by Age Group

Charts 4 through 10 show the 15-year moving averages[1] of mortality improvement rates of males and females for various age groups over the period from 1936 to 2005. Appendix C shows for selected age-groups, that 15-year moving averages are more suited to use on a long term basis, as they exhibit lower volatility than moving averages using fewer number of years.

Infant mortality improvement rates (age 0)

Chart 4 shows that infant mortality has declined substantially since the early 1920's as the average annual mortality improvement rates for both genders has increased from 3% up to 6% by 1985. The decrease in average annual mortality improvement rates since 1985 is attributable to the fact that it is increasingly difficult to improve mortality when it is at a historical low. For the most recent 15-year period ending in 2005, both genders have experienced average annual mortality improvement rates of about 1.5%.

Chart 4 Average Annual Mortality Improvement Rates – Age 0

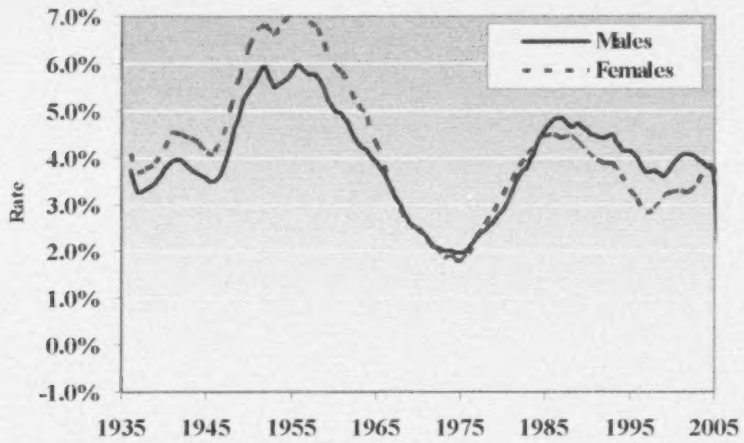


Child mortality improvement rates (ages 1 to 14)

Chart 5 shows that this age group has experienced important variations in mortality improvement rates over the last 70 years. As an example, males in this age group experienced the highest 15 year average annual mortality improvement rates of about 6% (7% for females) in the period ending in 1956 while the lowest annual mortality improvement rates were experienced in the 15-year period ending in 1975. For the most recent 15-year period ending in 2005, both genders have experienced average annual mortality improvement rates of about 4%. Improvement rates have generally been on the decline since the 15-year period 1970-1985.

[1] The average annual mortality improvement rate is defined as the exponential of the slope of the linear regression of the log of mortality rates by periods of 15 years as discussed in Appendix D. For example, for year 1936, it is the slope of the linear regression of the log of mortality rates over the period 1921 to 1936.

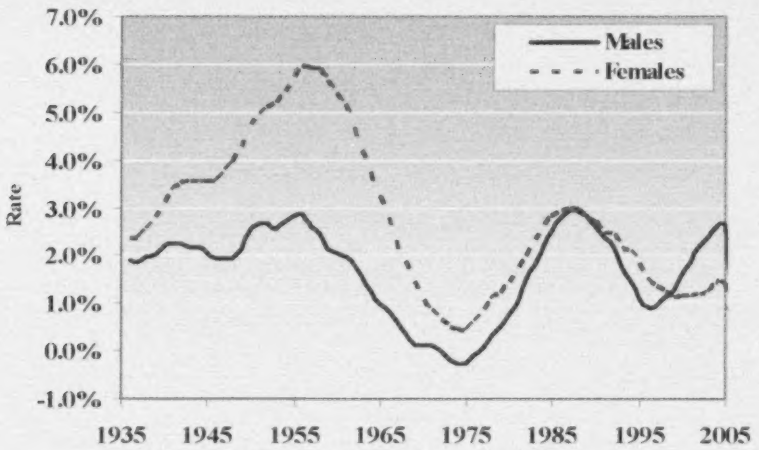
Chart 5 Average Annual Mortality Improvement Rates – Ages 1-14



Young adults mortality improvement rates (ages 15 to 44)

Chart 6 shows that the average annual mortality improvement rates of young adults have a distinctive pattern by gender where females have experienced more important variations. As an example, females in this age group experienced the highest average annual mortality improvement rates of about 6% (3% for males) in the 15-year period 1941-1956 while the lowest average annual mortality improvement rates were experienced in the 15-year period 1960-1975 (0.5% for females and -0.2% for males). Since the 15-year period 1970-1985 average annual improvement rates have generally been on the decline for females. However, since the mid 90's male improvement rates have increased while those of females have remained relatively stable. For the most recent 15-year period 1990-2005, the average annual mortality improvement rate of males (2.8%) is greater than that of females (1.3%).

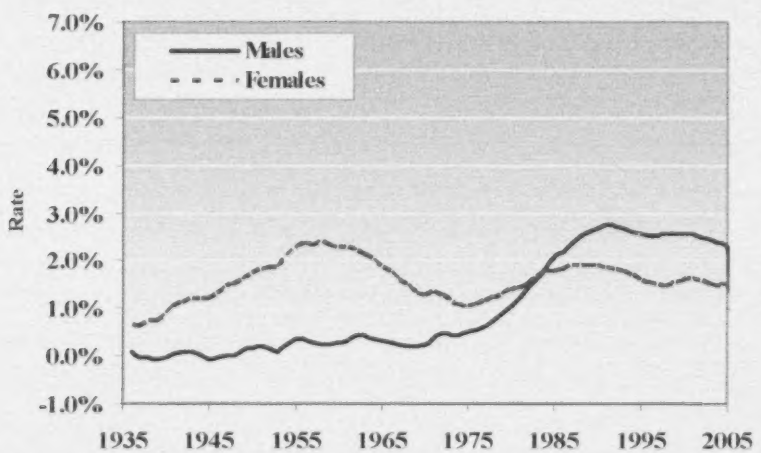
Chart 6 Average Annual Mortality Improvement Rates – Ages 15-44



Older adults mortality improvement rates (ages 45 to 64)

As for young adults, Chart 7 shows that older adults have a distinctive pattern of average annual mortality improvement rates by gender. Males in this age category have had an average annual mortality improvement rate of less than 0.5% up to the 15-year period 1955-1970. Since then, male mortality improvements have increased to reach a level of about 2.8% in the period 1975-1990 and then decreased to about 2.3% in the period 1990-2005. Females in this age group have experienced less variability than males as their average annual mortality improvement rates have been in the range of 1% to 2% over the period from 1936 to 2005. For females, mortality improvement rates have declined from about 2% for the period 1970-1985 to about 1.5% for the most recent 15-year period 1990-2005.

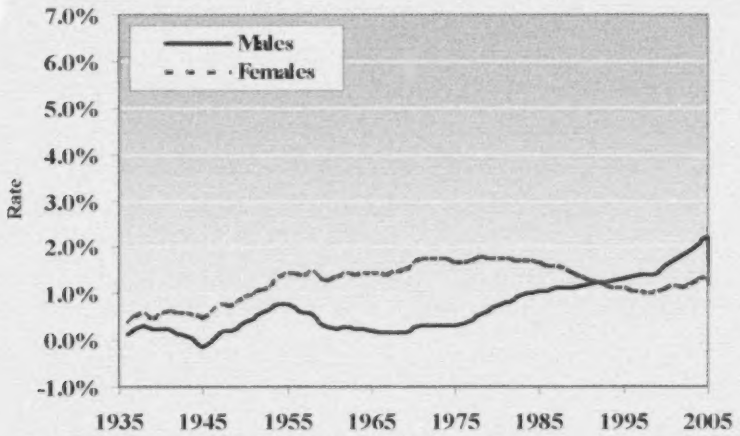
Chart 7 Average Annual Mortality Improvement Rates – Ages 45-64



Elderly mortality improvement rates (ages 65 to 84)

Chart 8 shows the average annual mortality improvement rates for the elderly population in the 65 to 84 age group. Up to the 15-year period 1960-1975, males in this age category experienced little mortality improvement. Since then, males have experienced increasing mortality improvement rates. Females in this age group have experienced greater mortality improvement rates than males up to 1975-1990.

Chart 8 Average Annual Mortality Improvement Rates – Ages 65-84



Advanced ages mortality improvement rates (ages 85 to 89 and 90 to 99)

Charts 9 and 10 show that there is little variation in the average annual mortality improvement rates experienced between those in the age group of 85-89 and 90-99. The mortality improvement rates for both subgroups are lower than experienced by the younger subgroups reflecting the "squaring" characteristics of the survival curves as discussed earlier.

Chart 9 Average Annual Mortality Improvement Rates – Ages 85-89

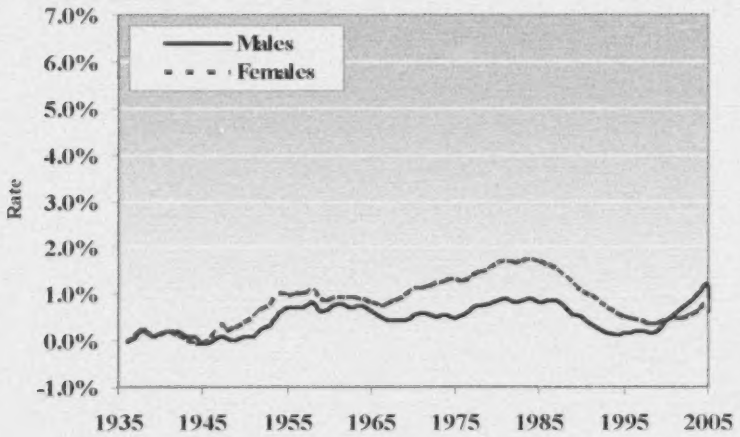
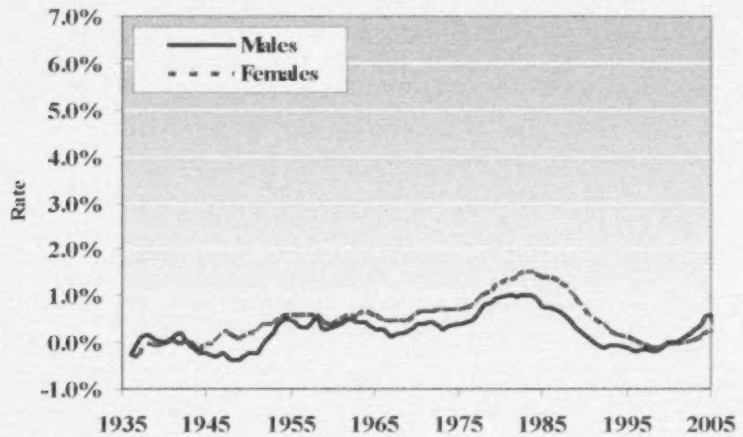


Chart 10 Average Annual Mortality Improvement Rates – Ages 90-99



In general, average annual mortality improvement rates reduce with age, i.e. the older the age group the lower the mortality improvements. This is a sign that diseases, or other causes of death, affecting younger ages are easier to overcome than those affecting old age. Because aging is a natural process, the medical advances at older ages will come more slowly and at greater expense and effort.

D. Decomposition of Increase in Life Expectancy by Age Group

The historical and projected contribution of the different age groups to the overall increase in life expectancy at birth are analysed over periods of 40 years. Tables 4 and 5 show over various time periods, which age groups have contributed the most to the increase in life expectancy. These results were based on the methodologies of D.M. Cutler (Cutler et al, 2001) and S.F. Jarner (Jarner et al, 2007) as discussed in Appendix E. The projected contribution of each age group is based on historical CHMD mortality and mortality as projected under the 23rd CPP Actuarial Report.

1925-1965

From 1925 to 1965, life expectancy at birth increased by about 11 years for males and 15 years for females. The change in infant mortality contributed the most to the increase in life expectancy at birth. It accounted for 54% and 31% of the increase in the life expectancy for males and females respectively.

Table 4 Contribution to Increase in Life Expectancy at Birth by Age Group (Males)

Change attributable to (in years)	1925-1965	1965-2005	2005-2045[1]	2045-2085[1]
Infant mortality (<1)	5.8	1.4	0.2	0.1
Child mortality (1-14)	2.5	0.5	0.1	0.0
Young adult mortality (15-44)	2.1	1.2	0.7	0.2
Older adult mortality (45-64)	0.1	2.8	1.1	0.5
Elderly mortality (65+)	0.3	3.6	2.9	1.9
Estimated Multivariate Effect	-0.1	-0.5	-0.3	-0.1
Total Change in Life Expectancy	10.7	9.1	4.8	2.5

[1] Based on the projected 23rd CPP Actuarial Report mortality assumption (see section III. B).

Table 5 Contribution to Increase in Life Expectancy at Birth by Age Group (Females)

Change attributable to (in years)	1925-1965	1965-2005	2005-2045[1]	2045-2085[1]
Infant mortality (<1)	4.6	1.2	0.2	0.1
Child mortality (1-14)	2.5	0.4	0.1	0.0
Young adult mortality (15-44)	3.9	0.6	0.3	0.1
Older adult mortality (45-64)	1.9	1.5	0.7	0.4
Elderly mortality (65+)	2.2	4.0	2.2	1.8
Estimated Multivariate Effect	-0.4	-0.4	-0.2	-0.1
Total Change in Life Expectancy	14.7	7.4	3.2	2.3

[1] Based on the projected 23rd CPP Actuarial Report mortality assumption (see section III. B).

1965-2005

From 1965 to 2005, life expectancy at birth increased by about nine years for males and seven years for females. For both genders, the age-group category contributing most to the increase in the life expectancy at birth were those age 65 and over as it accounted for 40% of the increase in life expectancy at birth for males and 54% of the increase in life expectancy at birth for females.

2005-2045

From 2005 to 2045, based on the 23rd CPP Actuarial Report, life expectancy at birth is projected to increase from 78.1 to 82.6 for males and from 82.7 to 85.8 for females. For both genders, the projected decline in elderly mortality accounts for 60% of the increase in the life expectancy at birth for males (about three years) and 54% of the increase in the life expectancy at birth for females (about two years).

2045-2085

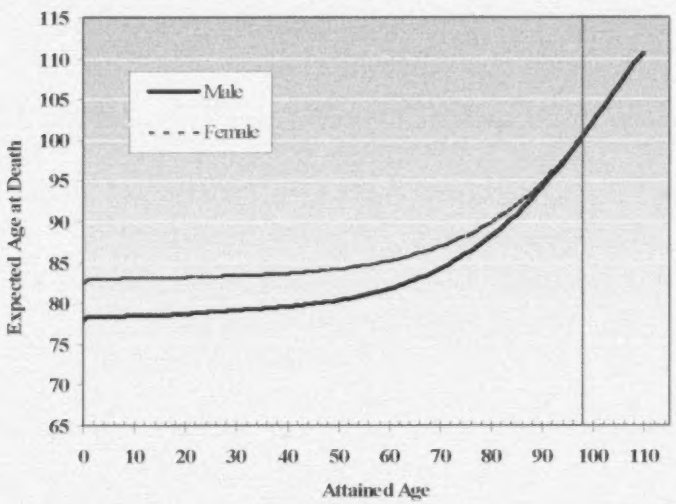
From 2045 to 2085, life expectancy at birth is projected to increase by about three years for males and two years for females. Similar to the period from 2005 to 2045, the projected decline in elderly mortality explains most of the increase in the life expectancy at birth as it is estimated to account for about two years for both genders.

E. Living to Age 100

The combination of improved mortality, genetic research and advances made in medical science raises a question as to whether a life expectancy at birth of 100 years is possible in the near future. The purpose of this section is to examine the extent to which current mortality rates need to be reduced to obtain a life expectancy at birth of 100 years. Simple mathematical models will be applied to the 2005 Canadian Human Mortality Database (CHMD)[1] combined with general mortality improvements. A general improvement in mortality of 10% means that all of the base mortality rates are reduced by 10%. Appendix F includes an analysis of the sensitivity of life expectancy to a 10% mortality improvement.

The life expectancy for an individual at a given age determines the expected age at death. Chart 11, which is based on the 2005 CHMD, confirms that the expected age at death is a non-decreasing function of attained age. It follows that the expected age at death for a newborn is the lowest of all. It is interesting to note that based on current mortality, an expected age at death of 100 is only reached when an individual attains the age of 98.

Chart 11 Expected Age at Death by Attained Age (2005)



A simple test can be conducted to see at what age the expected age at death becomes 100 when a general improvement to the 2005 CHMD mortality rates is applied. If there were no mortality from birth to any given age, the expected age of death for a newborn would then equal the expected age at death of the given age. As an example, all else being equal, in 2005, if all mortality rates were zero up to age 98, then the expected age at death of a newborn would become 100, the same as at age 98. For comparison purposes, in 2050, if all mortality rates were zero up to age 96, then the expected age at death of a newborn would become 100.

[1] The mortality rate at the terminal age (109 years) of the 2005 CHMD is less than 1.00. To close the table, we assumed a rate of 1.00 at age 110.

Table 6 also shows the specific improvement in mortality required to attain an expected age of death of 100 at various given age. Mortality improvements of at least over 84% are needed to produce an expected age at death of 100 for a newborn. Therefore future mortality improvements must be significant at older ages to substantially increase life expectancy at birth.

To put these levels of mortality improvement in perspective, a life expectancy at birth of 100 could be attained in 140 years (i.e. in year 2145) for males and in 121 years (i.e. in year 2126) for females if mortality was to improve at the rate observed over the last 15 years. If mortality was to improve at twice the rate observed over the last 15 years for males and four times the rate observed for females then it would be achieved in about 50 years.

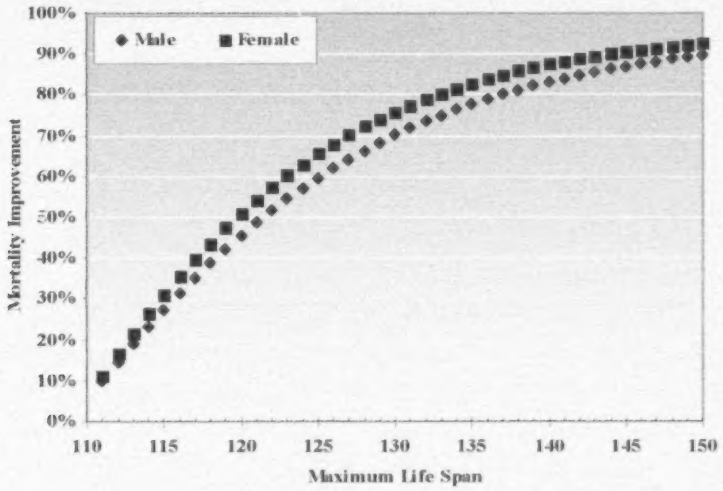
Table 6 Mortality Improvement Required to Attain an Expected Age at Death of 100 (by attained age in 2005)

	Current Expected Age at Death		Mortality Improvement Required to Increase the Expected Age at Death to 100	
Attained Age in 2005	Males	Females	Males	Females
0	78	83	88%	84%
50	80	84	87%	83%
65	83	86	86%	82%
80	88	90	82%	78%
95	98	98	45%	37%

It makes sense that life expectancy at birth would increase the most if mortality improvement happens at the older ages, as this is where most people die. This suggests a second test; measuring the effect of mortality improvement at older ages through an increase in the maximum life span, the ultimate age to which a human being can live. It is worth noting that our mathematical models have so far assumed a maximum life span of 110. Some may consider this unrealistic because significant mortality improvement at older ages should result in an increase in the maximum life span.

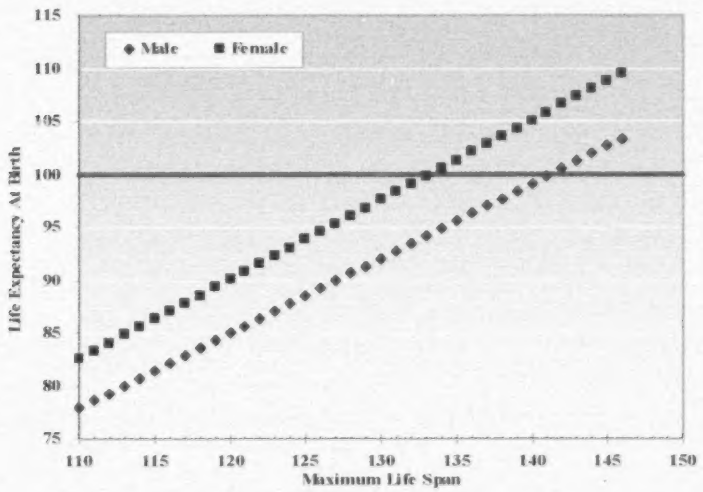
The simplest way to implement an increase in the maximum life span using the 2005 CHMD is to map the current 111 mortality rates (from ages 0 to 110) to "new" ages from 0 to 110+n. In fact, the 111 current ages are increased by a factor of 1+n/110. With this approach, for example, if the mortality rates are applied to a new table ending at age 121, i.e. 110 (1 + 10%), the mortality rate currently applicable for age 50 would be used for age 55 and so forth. Because mortality rates generally rise with age, lower mortality rates are in effect being applied. With the same example, the mortality rate for a male age 66 would be 8.7 per thousand instead of 15.7 per thousand, or the equivalent of the mortality rate for someone currently age 60. This corresponds to a decrease of 45% in the mortality rate at age 66. Therefore the difference between this approach and the previous model is in the way the mortality improvement is distributed by age. Chart 12 shows the resulting average mortality improvement by number of years in the maximum life span.

Chart 12 Average Mortality Improvement Needed to Increase Maximum Life Span



Let us examine what effect an increase in the maximum life span has on the life expectancy at birth. Chart 13 presents this information for both males and females. It shows that if the shape of the mortality curve is kept similar to the 2005 CHMD using the age mapping as explained earlier, males would need a maximum life span of 142 years to have a life expectancy at birth of 100 years; the comparable figure for females is 134 years. For males, increasing the maximum life span by 32 years to age 142 is equivalent to a reduction of mortality rates of 85% (see Chart 13), which is consistent with the 88% mortality improvement shown to be necessary in the previous model.

Chart 13 Life Expectancy at Birth as a Function of Maximum Life Span



Finally, Charts 14 and 15 compare the survival curves for each gender for the two mortality improvement models that result in a life expectancy at birth of 100 years. Chart 14 compares the general mortality improvement of 88% for male ages 0 to 109 with the increase in maximum life span to age 142. The same is done in Chart 15 but for females, for whom the corresponding figures are 84% and age 134.

Chart 14 Comparison of Survival Curves for Males
(Probability of Newborn Surviving to Given Age)

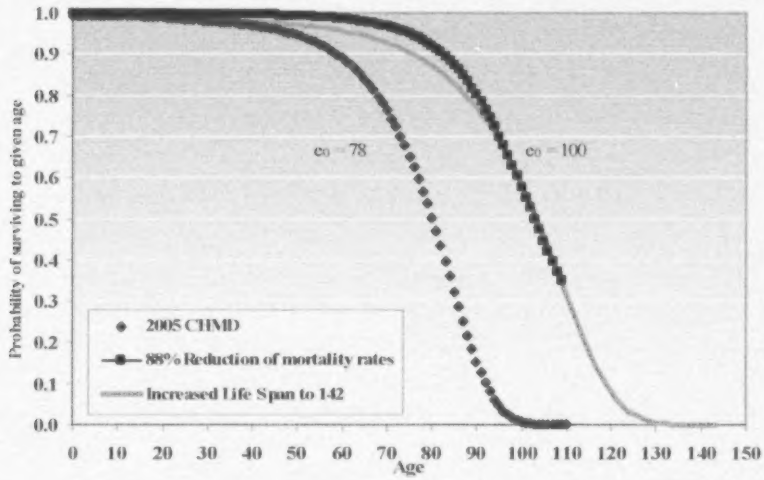
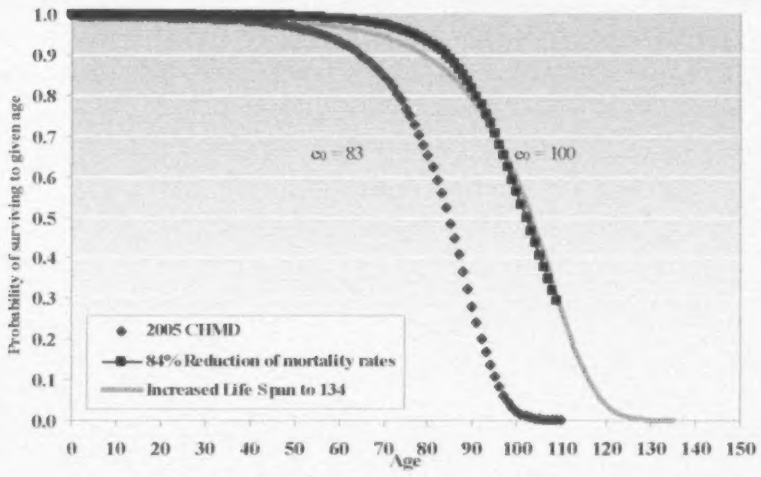


Chart 15 Comparison of Survival Curves for Females
(Probability of Newborn Surviving to Given Age)



III. Mortality Projections

A. Introduction

One of the principal components of the Twenty-Third CPP Actuarial Report (AR23) is the population projection, which is used to determine the contributors, beneficiaries and total expenditures in each future year. To obtain the projected population, assumptions on migration, fertility and mortality rates must be made. To project mortality rates, our methodology requires the use of mortality improvement factors. This section gives an overview of the assumptions made for mortality and the associated mortality improvement rates.

Mortality Projections in Twenty-Third CPP Actuarial Report

The starting point for mortality rate projections for the 23rd CPP actuarial report is the mortality rates from the Statistics Canada publication "Life Tables, Canada, provinces and territories, "2000-2002". According to these tables, life expectancies at birth for males and females in Canada in 2001 were 76.9 and 82.0 years, respectively.

To reflect anticipated sustained improvements in life expectancy, the 2001 Canada and Québec mortality rates were projected to 2004 using the actual improvements in mortality experienced between 2001 and 2004. This approach produced life expectancies at birth of 77.8 years for males and 82.6 for females in 2004. The life expectancies at age 65 are 17.7 years and 21.0 years for males and females, respectively. This compares well with figures published by Statistics Canada for 2004. Mortality rates thus obtained for 2004 were then projected to the end of the projection period using the following annual rates of mortality improvement.

For 2005 to 2009, the annual rates of mortality improvement, varying by age and sex, were set equal to the smoothed average annual improvement rates experienced in Canada over the period 1989 to 2004 as shown in Table 7.

Table 7 Assumed Mortality Improvement Rates (2005 – 2009)

	Actual 1974-1989 Average		Actual 1989-2004 Average		Smoothed Mortality Improvement Rates Assumed* for 2005 - 2009	
Age Group	Male	Female	Male	Female	Male	Female
	(%)	(%)	(%)	(%)	(%)	(%)
0	5.0	5.1	2.2	1.8	2.3	1.8
1-4	4.7	4.3	4.0	3.2	4.0	3.3
5-9	5.8	5.2	3.8	5.2	3.8	5.3
10-14	3.9	3.7	3.7	3.3	3.8	3.3
15-19	3.6	3.2	3.2	1.6	3.3	1.5
20-24	3.3	2.8	2.5	1.4	2.5	1.5
25-29	1.9	2.6	3.2	1.9	3.3	2.0
30-34	1.4	2.7	3.2	1.7	3.3	1.8
35-39	2.7	3.2	2.6	1.4	2.5	1.3
40-44	3.3	2.6	1.8	1.2	1.8	1.3
45-49	3.5	2.6	1.7	1.5	1.8	1.5
50-54	3.2	2.0	2.2	1.5	1.9	1.4
55-59	2.6	1.8	2.5	1.6	2.1	1.4
60-64	2.0	1.6	2.6	1.4	2.3	1.3
65-69	1.7	1.6	2.5	1.4	2.5	1.3
70-74	1.4	1.6	2.3	1.3	2.3	1.3
75-79	1.1	1.5	1.9	1.3	2.0	1.3
80-84	0.9	1.6	1.6	1.1	1.5	1.0
85-89	0.8	1.5	0.8	0.4	0.8	0.5
90+	-0.6	0.1	0.0	-0.1	0.5	0.3

* As assumed in the 23rd CPP Actuarial Report.

Improvement rates for years 2010 to 2028 were obtained by linear interpolation between:

- the improvement rates of year 2009, and

- the fixed improvement rates described below in respect of the period 2029 and thereafter.

For years 2029 and thereafter, the ultimate annual rates of mortality improvement vary by age only. The ultimate annual mortality improvement rates in AR23 were determined by trending the experience of female improvement rates over the last 30 years (1974-2004, 2004 being the latest year available at time of report publication) for another 30 years. The data from the last thirty years clearly show a deceleration of female improvement rates in Canada. Based on that information, an ultimate improvement rate of 0.7% has been set for females below age 85 for years 2029 and thereafter. The ultimate improvement rate of 0.7% for females below age 85 is derived by continuing the underlying trend between the average rate of improvements observed between the two 15-year periods of 1974 to 1989 and 1989 to 2004. The ratio of the average annual improvement rate for females for that age group over the period 1989 to 2004 (1.3%) to the average annual improvement rate for the period 1974

to 1989 (1.8%) is used as the trending factor. For ages over 85, the ultimate improvement rates have been reduced between 0.6% and 0.4% to reflect past experience that shows a reduction in improvement rates by age. Mortality improvement rates based on Canadian data from the Human Mortality Database for the period 1973-2003 (2003 being the latest year available at time of report publication) yields similar results. Male ultimate improvement rates are then set equal to those for females at all ages.

Table 8 shows the initial (2005 to 2009), intermediate (2010-2028) and ultimate (2029+) assumed annual mortality improvement rates by age group.

Table 8 Ultimate Mortality Improvement Rates (2029+)

	Males			Females		
Age	**2005-2009**	**2010-2028**	**2029+**	**2005-2009**	**2010-2028**	**2029+**
	%	%	%	%	%	%
0	2.3	1.5	0.7	1.8	1.2	0.7
1-14	3.7	2.2	0.7	3.8	2.3	0.7
15-44	2.8	1.7	0.7	1.6	1.1	0.7
45-64	2.0	1.4	0.7	1.4	1.0	0.7
65-84	2.0	1.4	0.7	1.2	0.9	0.7
85-89	0.8	0.7	0.6	0.5	0.6	0.6
90-94	0.5	0.4	0.4	0.3	0.3	0.4
95+	0.0	0.2	0.4	0.0	0.2	0.4

Table 9 indicates a continuous decrease in projected mortality rates over the long term. For example, the mortality rate at age 65 for males is expected to be reduced from 13.8 per thousand in 2005 to 8.1 per thousand by 2050. The gap in mortality rates between males and females is also expected to decrease over the projection period.

For 2005 to 2050, Canadian life expectancy at birth (with the assumption of no subsequent mortality improvement) is projected to grow from 78.2 to 83.0 years for males and from 82.7 to 86.0 years for females. This is consistent with the narrowing of the gap between male and female life expectancies that has been observed over the last 25 years in Canada. The yearly increase in life expectancies in the early years of the projection reflects the significant increase observed over the last 25 years. Thereafter, there is a projected slowdown in the increase in life expectancies consistent with the low rate of improvement in mortality assumed for years 2029 and thereafter.

Table 9 shows an extract of historical and projected mortality rates resulting from the application of the derived mortality improvement factors as projected to calendar years 2010, 2025 and 2050. Tables 10 and 11 show the corresponding life expectancies at various ages calculated without and with mortality improvement respectively.

Table 9 Mortality Rates per 1,000 for Canada less Québec

	Males				Females			
Age	2005	2010	2050	2075	2005	2010	2050	2075
0	5.52	4.97	3.30	2.76	4.55	4.15	2.84	2.38
10	0.10	0.08	0.05	0.04	0.09	0.07	0.04	0.04
20	0.74	0.65	0.41	0.34	0.32	0.30	0.21	0.17
30	0.81	0.69	0.42	0.35	0.38	0.35	0.24	0.20
40	1.42	1.28	0.86	0.72	0.87	0.82	0.60	0.50
50	3.35	3.07	2.11	1.77	2.12	1.96	1.39	1.16
60	9.02	8.11	5.40	4.52	5.58	5.23	3.75	3.14
65	13.84	12.30	8.09	6.79	8.69	8.22	5.92	4.96
70	22.14	19.74	13.05	10.97	13.88	13.12	9.50	7.95
75	36.30	32.73	22.01	18.51	22.89	21.59	15.61	13.08
80	59.96	55.03	38.24	32.12	39.18	37.24	27.31	22.91
90	157.25	152.01	126.24	114.49	122.95	120.54	102.71	93.02
100	354.86	354.88	312.97	282.96	295.02	294.96	260.04	235.35

Table 10 Life Expectancies for Canada less Québec, without improvements after the year shown*

	Males				Females			
Age	2005	2010	2050	2075	2005	2010	2050	2075
0	78.2	79.2	83.0	84.6	82.7	83.2	86.0	87.5
10	68.7	69.7	73.4	74.9	73.2	73.7	76.3	77.8
20	58.9	59.9	63.5	65.0	63.3	63.8	66.4	67.8
30	49.3	50.3	53.7	55.2	53.5	54.0	56.6	57.9
40	39.8	40.7	44.0	45.4	43.8	44.2	46.7	48.1
50	30.5	31.4	34.5	35.9	34.3	34.7	37.1	38.4
60	21.9	22.7	25.5	26.8	25.3	25.6	27.8	29.1
65	18.0	18.7	21.3	22.4	21.1	21.4	23.4	24.6
70	14.4	14.9	17.2	18.3	17.1	17.4	19.2	20.2
75	11.1	11.5	13.4	14.4	13.4	13.6	15.2	16.1
80	8.3	8.6	10.1	10.8	10.1	10.2	11.5	12.3
90	4.3	4.4	5.0	5.4	5.2	5.2	5.8	6.2
100	2.0	2.0	2.3	2.6	2.5	2.5	2.8	3.1

* These are calendar year life expectancies based on the mortality rates of the given attained year.

Table 11 Life Expectancies for Canada less Québec, with improvements**

	Males				Females			
Age	2005	2010	2050	2075	2005	2010	2050	2075
0	84.4	84.8	87.4	88.8	87.5	87.9	90.2	91.5
10	74.2	74.6	77.1	78.6	77.4	77.7	80.0	81.3
20	63.7	64.1	66.7	68.1	66.9	67.2	69.5	70.9
30	53.4	53.8	56.3	57.8	56.5	56.8	59.1	60.5
40	43.1	43.5	46.0	47.5	46.1	46.5	48.8	50.1
50	33.1	33.5	36.0	37.4	36.0	36.3	38.6	39.9
60	23.6	24.1	26.4	27.7	26.4	26.7	28.8	30.1
65	19.3	19.8	22.0	23.2	21.9	22.2	24.2	25.4
70	15.2	15.7	17.7	18.8	17.6	17.9	19.7	20.8
75	11.6	12.0	13.8	14.7	13.7	14.0	15.6	16.5
80	8.6	8.8	10.3	11.1	10.2	10.4	11.7	12.6
90	4.3	4.4	5.0	5.4	5.2	5.2	5.9	6.3
100	2.0	2.1	2.4	2.6	2.5	2.5	2.8	3.1

** These are cohort life expectancies that take into account future improvements in mortality and therefore differ from calendar year life expectancies, which are based on the mortality rates of the given attained year.

B. Impact of Mortality Improvement on CPP

This section shows how mortality improvement impacts the CPP. What are the consequences of contributors and beneficiaries living longer? The answer to that question is of primary importance for the future financial health of the Plan.

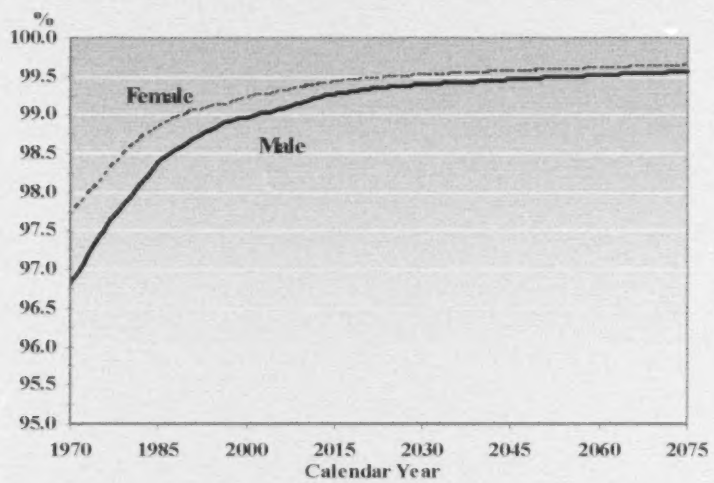
Surviving to Age 18

CPP contributory service begins at age 18 and ends at the age of retirement benefit uptake. The retirement benefit is then paid until death.

One important element of the Plan is the number of contributors, which forms the basis for the financing of the Plan together with investment income. The future number of contributors relies on both fertility and immigration. With respect to fertility a newborn must reach age 18 to become a contributor. By looking at past statistics and using the mortality projections of the Twenty-Third CPP Actuarial Report, the evolution of the probability of becoming a contributor (i.e. surviving from birth to age 18) can be traced. Chart 16 shows this probability by sex and calendar year. The probability of a newborn reaching age 18 has increased significantly over the past 40 years and is projected to continue increasing but at a much slower pace.

The gender gap in the probability of reaching age 18 is assumed to continue to narrow as demonstrated in Chart 16. The difference of 0.9% in 1970 narrowed to only 0.2% by 2005 and is projected to virtually disappear by 2075, at which time nearly all newborns (99.6% of boys and girls) should reach age 18. These statistics show that great progress was made in the 20th century in reducing childhood mortality in Canada.

Chart 16 Probability of Surviving from Birth to Age 18 (Canada less Québec)



Surviving from Age 18 to Age 65

CPP contributory service begins at age 18, from which time contributions on employment earnings become revenue to the CPP. Chart 17 shows the probability of surviving from age 18 to the normal retirement age of 65. The probability of surviving the contributory period has increased over time for men (from 73.4% in 1970 to 86.0% in 2005) and is projected to reach 92.7% by 2075. The increase has been only half as large for women (from 85.5% in 1970 to 91.3% in 2005) with 95.0% projected for 2075. The gender gap in the probability of surviving from age 18 to age 65 was a substantial 12.6% in 1970 but is expected to narrow to only 2.3% by 2075.

Chart 17 Probability of Surviving from Age 18 to Age 65 (Canada less Québec)

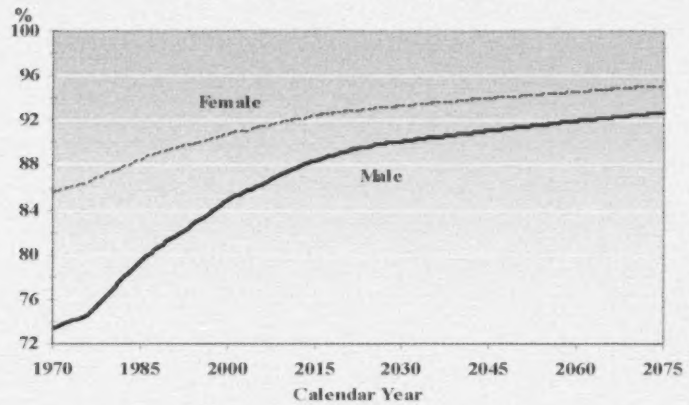
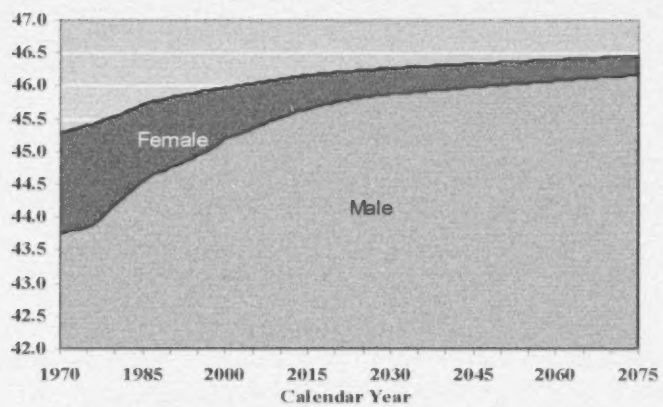


Chart 18 shows the average number of years a person is expected to live between the ages of 18 and 65. In 1970 a male was expected to live an average of 43.8 years out of a possible 47 years. In this case the maximum possible revenue gain for the plan was 3.2 more years of contributions.

Chart 18 Average Number of Years Lived Between the Ages 18 and 65 (Canada less Québec)



By way of comparison, a female was expected to live 45.3 years for a maximum possible gain of 1.7 years. In 2075 the average number of years lived between age 18 and age 65 is expected to be 46.2 years for males and 46.5 years for females. The gender gap in this statistic is therefore expected to narrow from 1.5 years in 1970 to 0.3 years in 2075. This situation is generally profitable for the CPP because as the life expectancy between ages 18 and 65 increases, so does the average number of years a person will contribute. However this effect is partly offset by more individuals reaching the normal retirement age and becoming beneficiaries.

Surviving After Age 65

Since retirement benefits represent a large portion of total CPP benefits, it is not surprising that the number of years the retirement benefits will be paid has a great impact on the Plan's financial status. For instance, increasing the assumed mortality improvements (by adding 6 years to the current life expectancy at age 65) would increase the minimum contribution rate by as much as 0.4% (minimum contribution rate of 10.2% versus 9.8% as shown in the 23rd Actuarial Report). Charts 19 and 20 show, for each sex, the probability of surviving from age 65 up to selected ages from 70 to 100.

Chart 19 Probability of Surviving from Age 65 to Specified Age for Male (Canada less Québec)

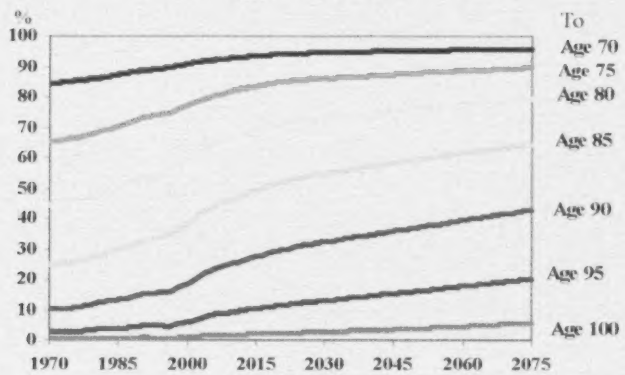


Chart 20 Probability of Surviving from Age 65 to Specified Age for Female (Canada less Québec)

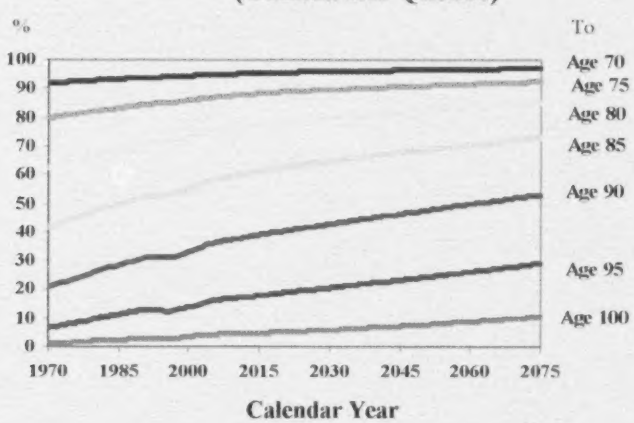


Table 12 presents the probability distribution by sex for the average number of years remaining to be lived for a 65-year-old person. Charts 21 and 22 present the probability of dying at a specified age for an individual age 65. These charts show the shift to the right of the bulk of the probability curve as mortality improves during the century ending in 2075. Table 12 also shows that the average length of time lived after age 65 has substantially increased since the inception of the CPP in 1966. As an example, in 1966, 35% of males at age 65 died within 10 years and 9% lived for more than 25 years. In comparison, in 2075, 10% of males at age 65 are projected to die within 10 years and 44% are projected to live for more than 25 years. A similar pattern can be observed for females.

In 1966 males age 65 were most likely to live between 10 to 15 years and females between 15 to 20 years. In the future males age 65 will most likely live between 20 to 25 years while females will most likely live between 25 to 30 years. The difference by gender is assumed to decrease slightly in the future. On average, in 1966 males aged 65 lived 13.9 years, which was 3.1 years less than for females (17.0 years). In 2075 the difference between males and females is reduced to 2.2 years, with 22.4 years for males and 24.6 years for females.

Table 12 Distribution of Years Lived After Age 65[1] (Canada less Québec)

	Calendar Year Mortality							
Male Age 65	**1966**	**1975**	**1985**	**1995**	**2005**	**2025**	**2050**	**2075**
0-5 years	16%	15%	13%	11%	8%	6%	5%	4%
5-10 years	19%	19%	17%	15%	12%	9%	8%	6%
10-15 years	21%	21%	20%	19%	16%	13%	12%	10%
15-20 years	20%	20%	20%	21%	20%	19%	17%	15%
20-25 years	14%	15%	16%	19%	21%	23%	22%	22%
25-30 years	7%	8%	9%	11%	15%	19%	21%	23%
30-35 years	2%	2%	3%	4%	7%	10%	12%	15%
More than 35 years	0%	0%	1%	1%	2%	2%	4%	6%
Total	100%	100%	100%	100%	100%	100%	100%	100%
Life Expectancy at 65 in years	13.9	14.3	15.2	16.2	18.0	20.0	21.3	22.4
Female Age 65	**1966**	**1975**	**1985**	**1995**	**2005**	**2025**	**2050**	**2075**
0-5 years	9%	8%	7%	6%	5%	4%	4%	3%
5-10 years	13%	11%	10%	9%	8%	7%	6%	5%
10-15 years	18%	16%	14%	13%	12%	10%	9%	7%
15-20 years	22%	21%	19%	19%	17%	16%	14%	12%
20-25 years	21%	21%	21%	22%	22%	22%	21%	20%
25-30 years	13%	15%	17%	19%	20%	22%	23%	24%
30-35 years	4%	7%	9%	10%	12%	14%	16%	19%
More than 35 years	1%	1%	2%	3%	4%	6%	8%	10%
Total	100%	100%	100%	100%	100%	100%	100%	100%
Life Expectancy at 65 in years	17.0	18.2	19.3	20.0	21.1	22.2	23.4	24.6

[1] Derived from the 23rd CPP Actuarial Report mortality assumption for Canada less Québec.

Chart 21 Probability of Dying at Specified Age for Male Age 65 (Canada less Québec)

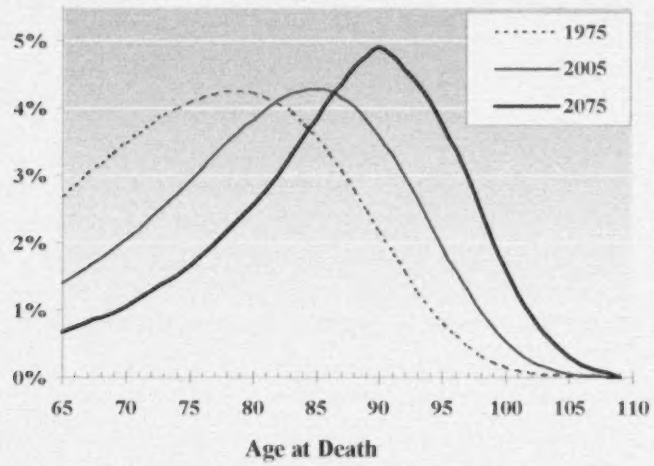
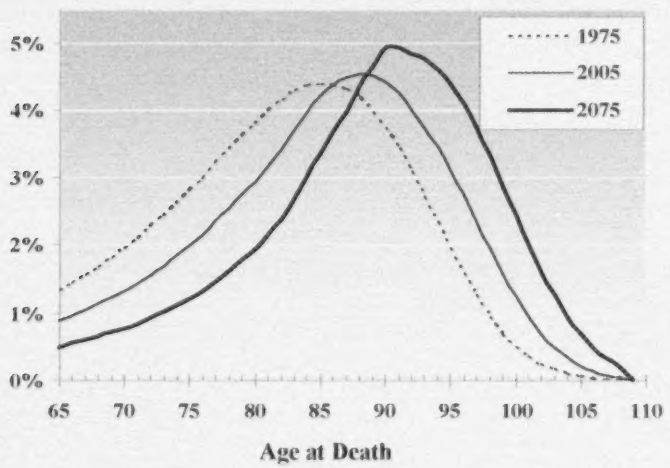


Chart 22 Probability of Dying at Specified Age for Female Age 65 (Canada less Québec)



IV. CPP Retirement Beneficiary Mortality

A. Introduction

This section presents the methodology and results of our study on the mortality of retirement beneficiaries by level of pension. One of the goals of this study is to develop mortality adjustment factors that reflect differences between retirement beneficiary mortality and general population mortality.

B. Retirement Benefit Eligibility

A person age 60 or over with contributory earnings in at least one past calendar year becomes eligible for a retirement pension upon application. An applicant for a retirement pension that becomes payable before the age of 65 must have wholly or substantially ceased to be engaged in paid employment or self-employment. A person ceases to contribute to the CPP once a retirement pension becomes payable or, in any event, after attaining age 70.

C. Retirement Benefit Calculation

The initial amount of monthly retirement pension is based on the history of pensionable earnings over the entire contributory period. The retirement pension is equal to 25% of the average of the Year's Maximum Pensionable Earning (YMPE) for the year of retirement and the four preceding years, adjusted to take into account the contributor's pensionable earnings. For this purpose the contributor's pensionable earnings for any given month are indexed by the ratio of the aforementioned five-year average YMPE to the YMPE for the year to which the given month belongs. Months of low pensionable earnings may be excluded from the calculation by reason of:

- pensions commencing after age 65;
- disability;
- periods where your raise children less than seven years of age; and
- the general 15% dropout provision.

D. Description of Data

Human Resources and Skills Development Canada (HRSDC) provided us with a 31 December 2007 extract of the CPP Master Benefit File, which contains information on all CPP benefits paid in each month since 1966 when the CPP was established. This study covers the ten year period 1996 to 2005 and compares the results to the 2005 CMHD. Each data record was validated and it was found that only a small portion (less than 0.1 %) of them to have incorrect or missing data; these records were discarded. This study includes about one million deaths and 27 million life-years of exposure.

A graduated 2005 Canadian Human Mortality Database (CHMD) Life Table for Canada less Québec was estimated to portray the mortality experience of the general Canada Pension Plan population and was used to develop comparative measures of expected longevity. The table for Canada less Québec was derived by graduating the age-sex-specific mortality rates that prevailed over year 2005. The resulting CHMD table for Canada less Québec was also extended from age 109 to 120.

Each CPP retirement beneficiary was classified according to the level of pension expressed as a percentage of the maximum retirement pension applicable to the year of emergence of the benefit. For this purpose the following four classes were established, less than 37.5%, 37.5% to less than 75%, 75% to less than 100% and 100%. Note that in this section the term "general population" will be used to refer to the population of Canada less Québec, as this is the population covered by the CPP.

E. Methodology

This section provides a general overview of the methodology used in the development of the mortality rates of CPP retirement beneficiaries over the experience period 1 January 1996 to 31 December 2005.

The final CPP retirement mortality rates represent best-estimate mortality for year 2005. The results were derived using the following four-step process:

1. Production of Annual Crude Mortality Rates

The crude mortality rate for a given age at last birthday in any given calendar year is the probability that a person at that age on 1 January dies by 31 December of that year. Crude mortality rates are usually calculated by simply dividing the relevant number of deaths by the number of exposures, where the number of exposures is the number of lives at the beginning of the year or period and so exposed to the probability of dying over that period. For this study, annual crude mortality rates were determined using the Product-Limit Estimator (PLE) method, also known as the Kaplan-Meier Product-Limit Estimator method by using the survival rates for all levels of retirement pension and also by level of maximum retirement pension. Further details of this method are provided in Appendix D.

2. Production of the 2005 Crude Base Mortality Rates

The 2005 crude mortality rates were derived from annual crude mortality rates over the period 1996 to 2005 by using regressions on the logarithm of the crude rates produced in the prior step allowing to adjust for a multiplicative mortality improvement factor.

3. Production of the 2005 Graduated Mortality Rates for all Levels of Pension

The 2005 crude mortality rates for all levels of retirement pension were graduated to reflect a compromise between smoothness and fit. A graduation method was used to produce the smoothed rates up to age 95. For ages over 95, a gradual growth in mortality rates was used at the advanced ages converging to the ultimate assumed mortality rates at age 120 of 0.70 for males and 0.65 for females.

4. Mortality Ratios by Level of Retirement Pension

Crude mortality ratios by level of retirement pension are obtained by sex, year and age by dividing the 2005 crude mortality rates by level of pension by the 2005 mortality rates for all levels of pension produced in the previous step. The crude ratios by level of pension are smoothed by fitting them to a family of curves of the type Pareto.

F. Results

1. Results by Sex

Chart 23 shows that the difference in mortality rates by gender generally increases with age. Chart 24 shows that the ratio of female rates to male rates also generally increases with age. At age 60 female mortality rates are 57% of male rates. The ratio exhibits some variability up to age 67 where it reaches 59%, it then increases continuously to 99% by age 109 before decreasing to 93% by age 120.

Chart 25 is particularly useful because it expresses CPP retirement beneficiary mortality rates relative to the rates for the general population (the 2005 CHMD). Several interesting observations can be made in respect of the information presented:

(i) For both males and females, retirement beneficiary mortality rates at ages 60 to 64 are significantly lower than for the general population. This is because retirement beneficiaries between the ages of 60 and 64 do not include CPP disability beneficiaries and are thus somewhat healthier than the general population. At age 65 disability beneficiaries automatically become retirement beneficiaries and the mortality ratio rises accordingly.

(ii) For males, mortality rates after age 65 are higher than for the general population. This is a somewhat unexpected result since male retirement beneficiaries, who comprise 97% of the male population at age 65 and over, are generally thought to have a higher socio-economic status than the remaining 3% of the male population, and should therefore have lower mortality than the general male population. Part of the answer could lie in the difference between the census survey data used in constructing the CHMD Life Tables for Canada and Québec and administrative data relied upon.

(iii) For females, mortality rates are lower than for the general population from ages 66 to 72 reflecting the CPP retirement beneficiaries higher socio-economic status.

In general, for ages 60 and over, the ratio of retirement beneficiary to general population mortality rates is lower for females than for males. At age 60, the mortality ratio of CPP retirement to general population mortality is 71% for females and 79% for males. At age 65, the mortality ratio is 101% for both genders. After age 65 the mortality ratio for both genders generally increases up to about age 95 (with mortality ratios of 110% for males and 103% for females) before converging to 100% by age 105.

Chart 23 CPP Retirement Beneficiary Mortality Rates - 2005
(Annual deaths per thousand persons)

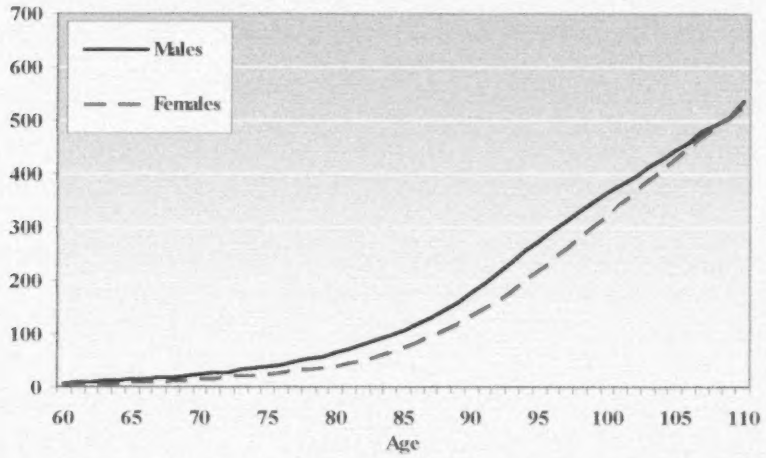


Chart 24 Ratio of Female to Male CPP Retirement Beneficiary Mortality - 2005

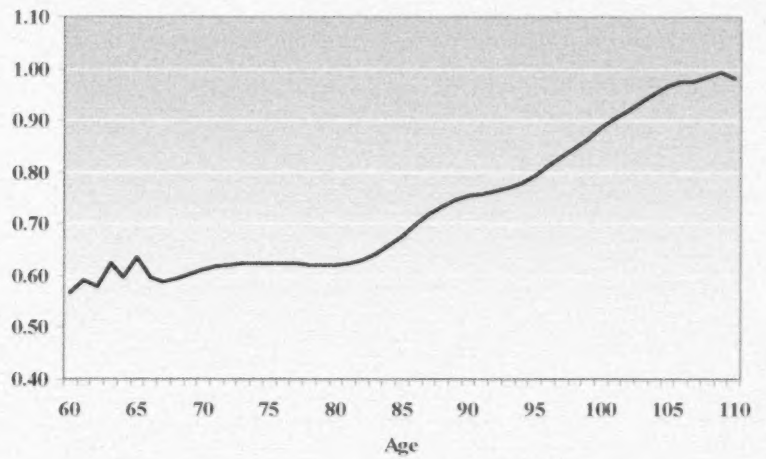
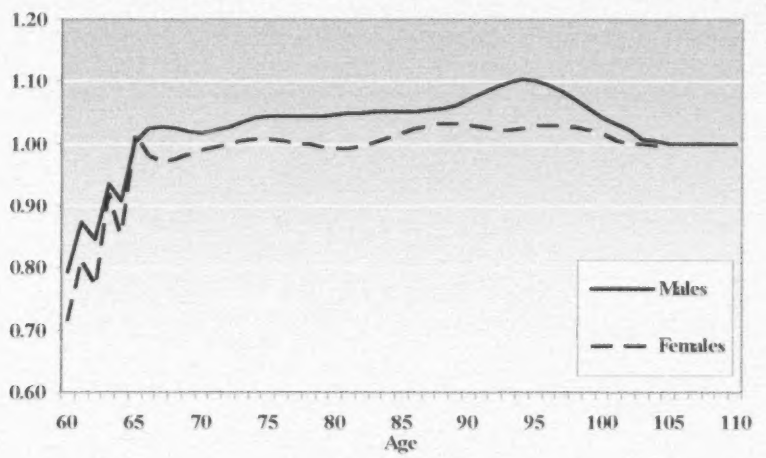


Chart 25 CPP Retirement Mortality Ratios Relative to General Population - 2005



2. Results by Level of Retirement Pension

As shown in Chart 26 and Table 13, the exposures for males are mostly distributed in the highest category of level of retirement pension, i.e. beneficiaries with a retirement pension between 75% and 100% of the maximum. In comparison, Chart 27 and Table 14 show that exposures for females are more concentrated in the two categories included in the less than 75% of the maximum level of retirement pension.

Chart 26 Male CPP Retirement Beneficiary Exposures (by Level of Pension – 2005)

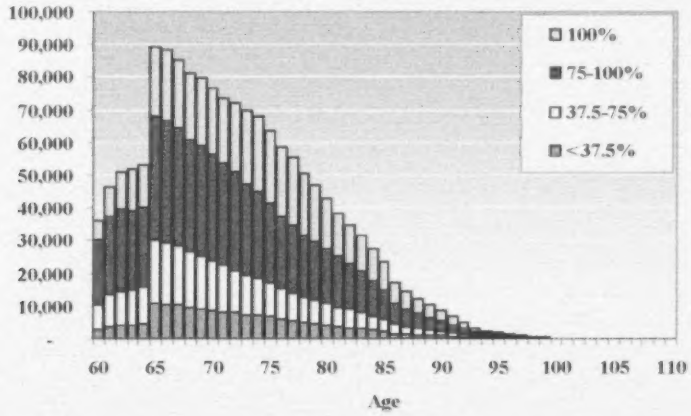


Table 13 Distribution of Exposures by Level of Pension (Male Beneficiaries, 2005)

	Level of Pension as Percentage of Maximum			
Attained Age	< 37.5%	37.5-75%	75-100%	100%
60-64	8.0%	20.8%	49.5%	21.7%
65-69	11.8%	21.1%	42.4%	24.6%
70-74	10.9%	18.3%	41.1%	29.7%
75-79	10.2%	15.7%	37.8%	36.3%
80+	9.6%	16.0%	39.5%	34.9%

	Level of Pension as Percentage of Maximum			
Age at Emergence	< 37.5%	37.5-75%	75-100%	100%
60-64	9.3%	21.8%	50.2%	18.7%
65-69	18.3%	23.4%	38.9%	19.3%
70-74	76.0%	9.0%	7.3%	7.7%
75-79	88.2%	8.5%	3.3%	0.0%
80+	85.4%	8.7%	2.8%	3.1%

Chart 27 Female CPP Retirement Beneficiary Exposures (by Level of Pension – 2005)

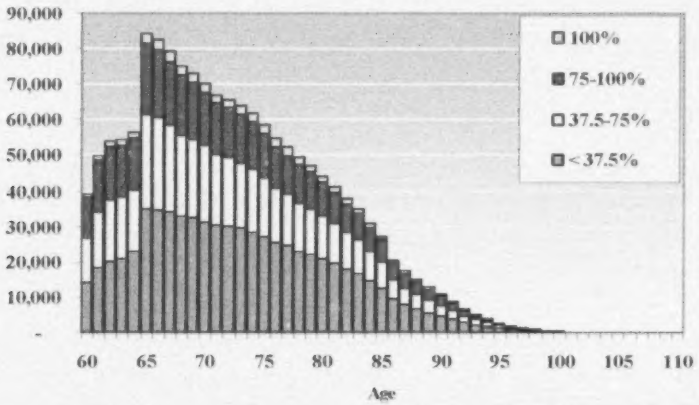


Table 14 Distribution of Exposures by Level of Pension (Female Beneficiaries, 2005)

	Level of Pension as Percentage of Maximum			
Attained Age	**< 37.5%**	**37.5-75%**	**75-100%**	**100%**
60-64	37.7%	31.7%	27.6%	2.9%
65-69	42.7%	31.0%	22.9%	3.4%
70-74	45.4%	29.4%	21.6%	3.5%
75-79	46.6%	28.0%	21.3%	4.1%
80+	46.2%	27.7%	21.8%	4.3%

	Level of Pension as Percentage of Maximum			
Age at Emergence	**< 37.5%**	**37.5-75%**	**75-100%**	**100%**
60-64	37.0%	32.3%	28.3%	2.4%
65-69	42.8%	32.2%	21.7%	3.3%
70-74	88.9%	5.4%	4.6%	1.1%
75-79	96.5%	2.5%	1.0%	0.0%
80+	98.4%	1.2%	0.2%	0.2%

Charts 28 and 29 and Table 15 show the mortality rates by level of pension. The pattern by level of pension is clearly recognizable; the higher the level of pension, the lower the mortality rates. The reason why individuals with high pensions have lower mortality is likely that their socio-economic background and education make them less exposed to some mortality risks. With universal access to medical care in Canada, lack of medical care can be ruled out as a significant factor.

Charts 30, 31 and Table 16 present the general population mortality ratios by level of retirement pension for males and females. In general, both genders exhibit expected patterns of convergence to the general population mortality for each level of pension as age increases. There is a noticeable increase in the mortality ratios at age 65, particularly for the higher pension classes; this is attributable to the automatic conversion of disability beneficiaries to retirement beneficiaries at that age.

Male retirement beneficiaries at 100% of the maximum retirement pension have the lowest mortality ratios, 55% at age 60, 79% at age 70 and 94% at age 80. In comparison, male retirement beneficiaries with the lowest level of pension (i.e. less than 37.5% of the maximum retirement pension) have the highest mortality ratios, 184% at age 60, 126% at age 70 and 118% at age 80.

Female retirement beneficiaries at 100% of the maximum retirement pension have the lowest mortality ratios, 34% at age 60, 77% at age 70 and 87% at age 80. In comparison, female retirement beneficiaries with the lowest level of pension (i.e. less than 37.5% of the maximum retirement pension) have the highest mortality ratios, 98% at age 60, 108% at age 70 and 104% at age 80. The level of the retirement pension impacts more the mortality rates of males than females.

Chart 28 Male CPP Retirement Beneficiary Mortality (by Level of Pension – 2005)
(Annual deaths per thousand persons)

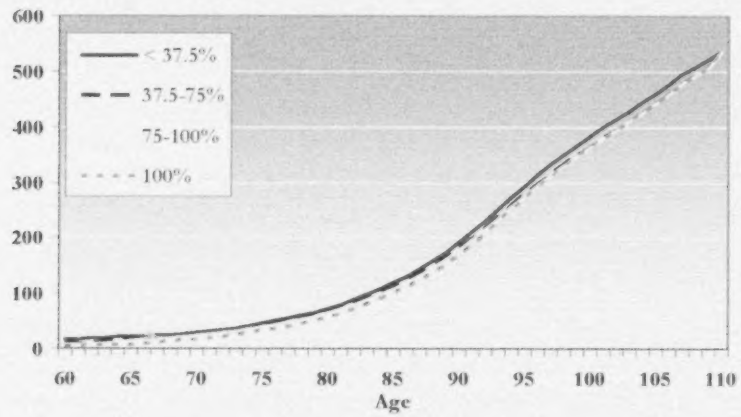


Chart 29 Female CPP Retirement Beneficiary Mortality (by Level of Pension – 2005)
(Annual deaths per thousand persons)

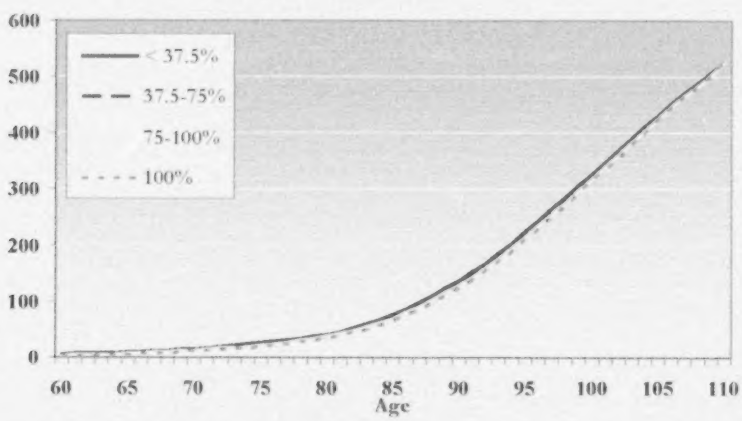


Chart 30 Male CPP Retirement Beneficiary Mortality Ratios (by Level of Pension – 2005)

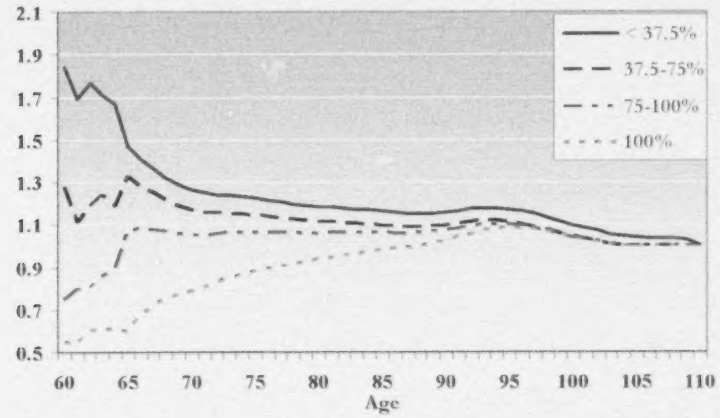


Chart 31 Female CPP Retirement Beneficiary Mortality Ratios (by Level of Pension – 2005)

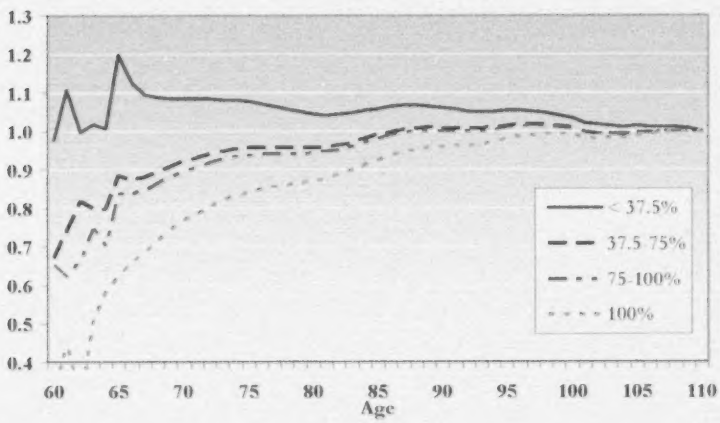


Table 15 CPP Retirement Beneficiary Mortality Rates (by Level of Pension – 2005)
(Annual deaths per thousand persons)

	Males						Females					
		CPP Level of Pension as % of Maximum						CPP Level of Pension as % of Maximum				
	General Population[1]	All	< 37.5%	37.5-75%	75-100%	100%	General Population[1]	All	< 37.5%	37.5-75%	75-100%	100%
60	8.7	6.9	16.0	11.1	6.5	4.8	5.4	3.9	5.3	3.6	3.5	1.8
61	9.5	8.3	16.1	10.5	7.6	5.2	6.0	4.9	6.7	4.5	3.7	2.7
62	10.5	8.8	18.4	12.4	8.4	6.3	6.6	5.1	6.6	5.4	4.4	2.0
63	11.5	10.8	19.7	14.3	9.9	7.0	7.3	6.7	7.4	5.8	5.4	3.8
64	12.7	11.5	21.0	15.0	11.2	7.7	8.0	6.8	8.0	6.4	5.6	4.7
65	13.9	13.9	20.4	18.4	14.9	8.4	8.7	8.9	10.5	7.7	7.3	5.5
66	15.3	15.6	21.5	19.6	16.6	10.4	9.5	9.3	10.7	8.3	8.0	6.3
67	16.8	17.2	22.8	20.9	18.1	12.1	10.4	10.1	11.4	9.2	8.8	7.2
68	18.4	18.8	24.3	22.4	19.7	13.8	11.5	11.2	12.5	10.2	9.9	8.2
69	20.2	20.6	26.0	24.1	21.4	15.6	12.6	12.4	13.7	11.5	11.1	9.4
70	22.3	22.6	28.1	26.1	23.4	17.6	14.0	13.9	15.2	12.9	12.5	10.7
71	24.5	25.0	30.6	28.5	25.8	19.9	15.5	15.5	16.8	14.5	14.1	12.2
72	27.1	27.8	33.6	31.3	28.6	22.6	17.3	17.3	18.7	16.2	15.8	13.9
73	29.9	30.9	37.0	34.5	31.8	25.5	19.2	19.3	20.8	18.2	17.8	15.7
74	33.1	34.4	40.7	38.0	35.2	28.8	21.3	21.4	23.0	20.3	19.9	17.7
75	36.6	38.1	44.7	41.9	39.0	32.4	23.6	23.8	25.4	22.6	22.2	19.9
76	40.4	42.2	49.1	46.0	43.1	36.3	26.2	26.3	28.0	25.1	24.6	22.3
77	44.7	46.7	53.9	50.6	47.6	40.6	29.0	29.1	30.8	27.8	27.3	24.9
78	49.5	51.6	59.2	55.6	52.6	45.5	32.2	32.1	33.9	30.8	30.3	27.7
79	54.8	57.2	65.2	61.3	58.2	50.9	35.7	35.5	37.4	34.1	33.6	30.9
80	60.8	63.6	72.0	67.7	64.5	57.0	39.7	39.4	41.5	38.0	37.4	34.6
81	67.5	70.7	79.6	75.0	71.6	64.0	44.4	44.1	46.2	42.5	42.0	39.0
82	74.9	78.6	88.1	83.0	79.6	71.7	49.8	49.6	51.9	47.9	47.3	44.2
83	83.0	87.3	97.4	91.8	88.3	80.3	56.0	56.1	58.6	54.4	53.7	50.3
84	92.0	96.8	107.4	101.4	97.8	89.7	63.2	63.8	66.5	61.9	61.2	57.6
85	101.9	107.1	118.3	111.8	108.1	100.0	71.4	72.6	75.6	70.7	69.9	66.0
86	112.6	118.4	130.2	123.1	119.3	111.2	80.7	82.7	85.8	80.6	79.8	75.6
87	124.2	130.7	143.2	135.4	131.7	123.6	91.2	93.8	97.2	91.6	90.7	86.3
88	136.7	144.3	157.5	149.0	145.2	137.3	102.8	105.9	109.6	103.5	102.7	98.0
89	150.2	159.4	173.3	164.1	160.3	152.6	115.4	118.9	122.8	116.4	115.5	110.6
90	164.6	176.1	190.8	180.7	177.0	169.5	129.1	132.8	136.9	130.1	129.2	124.1
91	179.9	194.4	209.8	198.9	195.2	188.1	143.8	147.5	151.8	144.8	143.8	138.5
92	196.2	213.9	230.1	218.3	214.7	208.1	159.5	163.2	167.7	160.4	159.4	153.9
93	213.2	234.2	251.1	238.3	234.9	229.0	176.2	180.0	184.8	177.2	176.2	170.6
94	231.1	254.7	272.2	258.5	255.2	250.3	193.8	198.3	203.2	195.4	194.4	188.7
95	249.6	274.7	292.7	278.0	275.1	271.2	212.2	218.2	223.3	215.3	214.3	208.5
96	268.8	294.0	312.4	296.9	294.3	291.6	231.6	238.5	243.8	235.6	234.7	228.9
97	288.4	312.6	331.2	314.9	312.7	311.4	251.8	259.2	264.6	256.3	255.3	249.6
98	308.4	330.5	349.1	332.1	330.5	330.5	272.7	279.9	285.4	277.1	276.2	270.7
99	328.7	347.5	366.2	348.5	347.5	347.5	294.2	300.8	306.3	298.1	297.3	292.0
100	349.1	364.0	382.5	364.1	364.0	364.0	316.4	321.8	327.3	319.2	318.4	313.4
101	368.0	379.9	398.2	379.9	379.9	379.9	341.1	342.7	348.2	340.3	339.6	335.0
102	387.3	395.4	413.5	395.4	395.4	395.4	363.3	363.6	369.1	361.4	360.9	356.7
103	407.7	410.9	428.6	410.9	410.9	410.9	384.7	384.6	389.9	382.6	382.2	378.5
104	425.2	426.5	443.9	426.5	426.5	426.5	407.1	405.7	410.9	404.0	403.7	400.6
105	442.7	442.7	459.7	442.7	442.7	442.7	427.0	427.0	432.0	425.6	425.4	422.9
110	535.0	535.0	535.0	535.0	535.0	535.0	525.1	525.1	525.1	525.1	525.1	525.1
115	650.5	650.5	650.5	650.5	650.5	650.5	613.2	613.2	613.2	613.2	613.2	613.2
120	700.0	700.0	700.0	700.0	700.0	700.0	650.0	650.0	650.0	650.0	650.0	650.0

[1] The Canada less Québec general population rate was derived from a graduated Canada Mortality Database (CHMD) Life Tables for Canada and Québec for year 2005.

Table 16 CPP Retirement Beneficiary Mortality Ratios (by Level of Pension – 2005)

	Males					Females				
	CPP Level of Pension as % of Maximum					CPP Level of Pension as % of Maximum				
	All	< 37.5%	37.5- 75%	75-100%	100%	All	< 37.5%	37.5-75%	75-100%	100%
60	0.793	1.842	1.275	0.749	0.550	0.714	0.977	0.671	0.650	0.338
61	0.873	1.691	1.105	0.795	0.544	0.813	1.108	0.739	0.620	0.442
62	0.845	1.762	1.191	0.802	0.603	0.768	0.995	0.816	0.663	0.308
63	0.935	1.710	1.240	0.857	0.609	0.916	1.016	0.796	0.742	0.516
64	0.907	1.663	1.188	0.889	0.609	0.854	1.005	0.796	0.702	0.585
65	1.001	1.466	1.324	1.074	0.601	1.014	1.197	0.883	0.836	0.625
66	1.023	1.406	1.283	1.083	0.680	0.979	1.123	0.874	0.836	0.659
67	1.027	1.359	1.248	1.079	0.724	0.971	1.095	0.880	0.846	0.688
68	1.024	1.318	1.215	1.068	0.752	0.975	1.086	0.893	0.863	0.717
69	1.019	1.286	1.189	1.059	0.773	0.983	1.085	0.907	0.879	0.744
70	1.017	1.262	1.171	1.053	0.792	0.990	1.084	0.919	0.894	0.766
71	1.020	1.248	1.160	1.053	0.812	0.995	1.083	0.930	0.906	0.786
72	1.027	1.240	1.155	1.057	0.833	1.000	1.082	0.939	0.916	0.803
73	1.034	1.236	1.153	1.062	0.854	1.004	1.081	0.946	0.925	0.819
74	1.040	1.231	1.150	1.066	0.872	1.006	1.079	0.953	0.933	0.832
75	1.044	1.224	1.145	1.067	0.887	1.007	1.076	0.956	0.938	0.843
76	1.044	1.215	1.138	1.066	0.899	1.005	1.070	0.958	0.941	0.851
77	1.044	1.206	1.131	1.064	0.909	1.002	1.063	0.958	0.941	0.857
78	1.044	1.197	1.124	1.062	0.918	0.998	1.056	0.956	0.941	0.862
79	1.044	1.190	1.118	1.061	0.928	0.994	1.049	0.955	0.941	0.866
80	1.045	1.184	1.114	1.061	0.938	0.992	1.044	0.955	0.942	0.871
81	1.048	1.180	1.111	1.062	0.948	0.992	1.041	0.958	0.945	0.878
82	1.050	1.177	1.109	1.063	0.958	0.996	1.042	0.963	0.951	0.887
83	1.051	1.172	1.106	1.063	0.967	1.002	1.046	0.971	0.959	0.899
84	1.052	1.167	1.102	1.063	0.975	1.009	1.052	0.980	0.969	0.912
85	1.052	1.162	1.097	1.061	0.981	1.017	1.058	0.990	0.979	0.925
86	1.052	1.157	1.093	1.060	0.988	1.024	1.063	0.998	0.988	0.937
87	1.053	1.153	1.090	1.060	0.995	1.029	1.066	1.004	0.995	0.946
88	1.056	1.152	1.090	1.063	1.004	1.031	1.066	1.008	0.999	0.953
89	1.062	1.154	1.093	1.068	1.016	1.031	1.064	1.009	1.001	0.958
90	1.070	1.159	1.098	1.075	1.030	1.028	1.060	1.008	1.001	0.961
91	1.080	1.166	1.105	1.085	1.046	1.025	1.055	1.006	1.000	0.963
92	1.091	1.173	1.113	1.094	1.061	1.023	1.051	1.005	0.999	0.965
93	1.098	1.178	1.118	1.101	1.074	1.022	1.049	1.006	1.000	0.968
94	1.102	1.178	1.118	1.104	1.083	1.023	1.049	1.008	1.003	0.974
95	1.100	1.173	1.114	1.102	1.086	1.028	1.052	1.014	1.010	0.983
96	1.094	1.162	1.105	1.095	1.085	1.030	1.053	1.017	1.013	0.988
97	1.084	1.148	1.092	1.084	1.080	1.029	1.051	1.018	1.014	0.992
98	1.071	1.132	1.077	1.071	1.071	1.027	1.047	1.016	1.013	0.993
99	1.057	1.114	1.060	1.057	1.057	1.022	1.041	1.013	1.010	0.992
100	1.042	1.096	1.043	1.042	1.042	1.017	1.035	1.009	1.006	0.991
101	1.032	1.082	1.032	1.032	1.032	1.005	1.021	0.998	0.996	0.982
102	1.021	1.068	1.021	1.021	1.021	1.001	1.016	0.995	0.993	0.982
103	1.008	1.051	1.008	1.008	1.008	1.000	1.014	0.995	0.994	0.984
104	1.003	1.044	1.003	1.003	1.003	0.997	1.009	0.992	0.992	0.984
105	1.000	1.038	1.000	1.000	1.000	1.000	1.012	0.997	0.996	0.990
110	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
115	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
120	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

3. Mortality Improvements and Life Expectancies

Table 17 shows the annual mortality improvement rates for the general population and for retirement beneficiaries over the period of 1990-2005. In general, retirement beneficiary mortality improvement rates over the period of 1990-2005 are lower than those of the general population for both genders, except for females at ages 60-64. Table 18 shows a comparison of the annual mortality improvement rates for retirement beneficiaries by level of retirement pension. For the age groups between 60 and 74, the mortality improvement rates are greater for CPP retirement beneficiaries with higher levels of pensions.

Table 17 CPP Retirement Beneficiary Annual Mortality Improvement Rates

	Males		Females	
Age Group	General Population [1] (1990-2005)	CPP Retirement Beneficiaries (1990-2005)	General Population [1] (1990-2005)	CPP Retirement Beneficiaries (1990-2005)
60-64	2.6%	1.6%	1.4%	1.5%
65-69	2.6%	2.5%	1.5%	1.0%
70-74	2.4%	2.2%	1.4%	1.2%
75-79	2.1%	1.9%	1.4%	1.2%
80-84	1.7%	1.5%	1.2%	1.0%
85-89	1.0%	0.9%	0.6%	0.3%
90-94	0.1%	-0.1%	0.1%	-0.3%
65-84	**2.2%**	**2.0%**	**1.3%**	**1.1%**

[1] Obtained by comparing the crude death rates (ratio of annual deaths as a proportion of the population of each year as provided by CHMD and by using the 2005 population as weights).

Table 18 CPP Retirement Beneficiary Annual Mortality Improvement Rates by Level of Pension (1990-2005)

	Males				Females			
Age Group	< 37.5%	37.5-75%	75-100%	100%	< 37.5%	37.5-75%	75-100%	100%
60-64	1.8%	1.8%	2.1%	2.9%	1.1%	1.7%	1.3%	2.9%
65-69	2.6%	2.1%	2.3%	3.9%	0.4%	1.1%	1.8%	2.1%
70-74	2.3%	1.7%	2.0%	2.8%	1.1%	1.3%	1.4%	2.1%
75-79	2.1%	1.3%	1.8%	2.2%	1.5%	1.2%	1.1%	1.3%
80-84	1.5%	1.3%	1.4%	1.3%	1.3%	0.9%	0.9%	0.6%
85-89	0.6%	0.5%	0.7%	0.9%	0.2%	0.4%	0.1%	-0.4%
90-94	-0.4%	-0.5%	-0.5%	-0.5%	-0.3%	-0.6%	-0.5%	-2.5%
65-84	**2.1%**	**1.6%**	**1.8%**	**2.2%**	**1.2%**	**1.1%**	**1.2%**	**1.3%**

Table 19 shows the cumulative mortality improvement rates over the period from 1990 to 2005 for retirement beneficiaries by level of retirement pension. The cumulative mortality improvement rate for CPP retirement beneficiaries with a maximum pension is greater than for those receiving less than the maximum pension. Over the past 15 years ending in 2005, male beneficiaries have seen a cumulative reduction in their mortality rates of 26%, while it was 15% for females. Males aged 65 to 69 have experienced the biggest reduction in mortality while females aged 90 to 95 have seen the biggest increase in their mortality rates.

Over the past 15 years ending in 2005, male beneficiaries at the two extremities of income, i.e. those with the lowest and highest pension have experienced the highest reduction in their mortality rates. This trend is similar for females, although less pronounced.

Table 19 Cumulative Mortality Improvement Rates by Level of Pension (1990-2005)

	Males					Females				
Age Group	**< 37.5%**	**37.5-75%**	**75-100%**	**100%**	**All**	**< 37.5%**	**37.5-75%**	**75-100%**	**100%**	**All**
60-64	23%	24%	27%	36%	22%	15%	22%	18%	36%	20%
65-69	33%	28%	30%	45%	31%	6%	15%	24%	27%	13%
70-74	30%	23%	27%	34%	28%	15%	18%	19%	27%	17%
75-79	28%	18%	23%	28%	25%	20%	17%	15%	18%	17%
80-84	20%	18%	19%	17%	21%	18%	12%	13%	8%	14%
85-89	8%	7%	10%	13%	12%	3%	6%	2%	-6%	3%
90-94	-5%	-8%	-7%	-8%	-2%	-5%	-9%	-7%	-44%	-4%
65-84	28%	21%	24%	29%	26%	16%	15%	17%	18%	15%

Tables 20 and 21 show life expectancies without future mortality improvements, based on the CPP retirement beneficiary mortality rates obtained for 2005 and on the comparable general population mortality rates. Male CPP life expectancies are lower than general population for each level of pension except the 100% level at ages below 65. As for CPP females, they generally have lower life expectancies than the general population for the level of pension at the 0-37.5% level.

From Table 20 it can be observed that males at age 60 with maximum pensions live about 3.4 years longer than males with pensions between 0 and 37.5% of the maximum. By age 65 the difference has narrowed to 2.4 years and by age 90 to 0.3 years. For females (Table 21) the difference between the two levels of pension is much lower at age 60, being only 2.0 years.

Table 20 CPP Retirement Beneficiary Life Expectancies (Males -2005)

	CPP Level of Pension as % of Maximum					
Age	**< 37.5%**	**37.5-75%**	**75-100%**	**100%**	**ALL**	**CHMD for Canada less Québec***
60	19.7	20.7	21.6	23.1	21.7	21.9
65	16.3	16.9	17.4	18.7	17.6	17.9
70	13.0	13.5	13.8	14.7	13.9	14.3
75	10.0	10.3	10.6	11.2	10.7	11.0
80	7.4	7.7	7.8	8.2	7.9	8.2
85	5.3	5.5	5.6	5.8	5.6	5.9
90	3.6	3.8	3.9	4.0	3.9	4.2

* Estimated on 2005 CHMD mortality for Canada and Québec weighted by the number of population for year 2005.

Table 21 CPP Retirement Beneficiary Life Expectancies (Females- 2005)

	CPP Level of Pension as % of Maximum					CHMD for Canada less Québec*
Age	< 37.5%	37.5-75%	75-100%	100%	ALL	
60	24.6	25.6	25.8	26.6	25.2	25.1
65	20.4	21.2	21.3	22.0	20.9	20.9
70	16.5	17.1	17.2	17.7	16.8	16.9
75	12.9	13.3	13.4	13.8	13.1	13.2
80	9.6	10.0	10.0	10.3	9.8	9.9
85	6.8	7.0	7.1	7.3	6.9	7.1
90	4.7	4.8	4.8	5.0	4.8	4.9

* Estimated on 2005 CHMD mortality for Canada and Québec weighted by the number of population for year 2005.

Table 22 shows that the life expectancies at age 65 for CPP retirement beneficiaries with a maximum pension was of 16.4 years for males and 20.2 for females in 1990. In 2005, the corresponding life expectancies at age 65 are 18.7 years for males and 22.0 years for females. Further, by projecting over the 15 years from 2005 to 2020 using the same mortality improvement rates observed over the period from 1990 to 2005, it is projected that in 2020 that their life expectancies at age 65 would be 20.6 years for males and of 22.8 years for females.

Table 22 Life Expectancies at Age 65 (CPP Retirement Beneficiary - Maximum Pension)

Year	Males	Females
1990	16.4	20.2
2005	18.7	22.0
2020	20.6	22.8
Differential over the period 1990 - 2005	2.3	1.8
Projected differential over the period 2005 - 2020	1.9	0.8

V. CPP Survivor Beneficiary Mortality

A. Introduction

Just as for retirement beneficiary mortality, survivor beneficiary mortality trends diverge somewhat from the general population. This section presents the methodology and results of our study on the mortality of CPP survivor beneficiaries. One of the goals of this study is to develop mortality ratios for CPP survivor beneficiaries relative to the general population. Again the term "general population" is used to refer to the population of Canada less Québec as this is the population covered by the CPP.

B. Survivor Benefit Eligibility

A legal spouse, a separated legal spouse not cohabiting with a common-law partner or a common-law partner, surviving a deceased contributor, is eligible for a survivor benefit if the following conditions are met as at the date of the contributor's death.

The deceased contributor must have made contributions during the lesser of ten calendar years, or one-third of the number of years included wholly or partly in his or her contributory period, but not for less than three years.

If the surviving spouse is the separated legal spouse of the deceased contributor, there must be no cohabiting common-law partner at the time of death. If the surviving spouse is the common-law partner of the deceased contributor, they must have cohabited for not less than one year immediately before the death of the contributor. If the common-law partner is of the same-sex as the deceased contributor, the death must have occurred on or after 17 April 1985.

If under 35 the surviving spouse or common-law partner must have dependent children, or be disabled. If between 35 and 45 and is not disabled or have children the benefit is reduced. A surviving spouse or common-law partner with dependent children means a surviving spouse who wholly or substantially supports a child of the deceased contributor where the child is under age 18, aged 18 or over but under age 25 and attending school full-time, or aged 18 or over and disabled, having been disabled without interruption since attaining age 18 or the time of the contributor's death, whichever occurred later.

C. Survivor Benefit Calculation

The initial amount of monthly survivor benefit depends on the age of the survivor, the survivor's disability status and the presence of dependent children. If the survivor is receiving a retirement pension or a disability benefit, the monthly amount of the surviving spouse benefit may be reduced. The following five cases describe how the survivor benefit is calculated.

1. New Survivor Age 45 to 65

The amount of monthly benefit payable until the surviving spouse or common-law partner attains age 65 is composed of two portions: a flat-rate benefit depending only on the year in which the survivor benefit is payable ($165.60 in 2009), and an earnings-related benefit depending initially only on the contributor's record of pensionable earnings as at the date of death. The initial earnings-related portion is equal to 37.5% of the retirement pension that would have been payable to the deceased contributor if the contributory period ended at the time of death with no actuarial adjustment.

2. New Survivor Under Age 45 without Dependent Child(ren)

An eligible spouse or common-law partner, without dependent child(ren) and not disabled, who becomes widowed before age 35 is not entitled to a survivor's benefit but may be entitled at a later date if she or he becomes disabled (see 4) or attains age 65 (see 5). If such a survivor is between 35 and 45 years of age, she or he is entitled to a benefit amount calculated as described in 1 above but reduced (until the earlier of disablement or attainment of age 65) by 1/120 of such an amount for each month that the new survivor's age is less than 45.

3. New Survivor Under Age 45 with Dependent Child(ren)

An eligible spouse or common-law partner who becomes widowed prior to age 45 and with dependent child(ren) is entitled to a survivor benefit calculated as in 1 above. Under certain circumstances, the survivor benefit is reduced or even discontinued when the survivor no longer has his/her last dependent child(ren). If the survivor is then under age 45 and not disabled, she or he is considered to be a new survivor entitled only to the benefit in accordance with 2 above.

4. Disabled Survivor Under Age 65

An eligible surviving spouse or common-law partner under age 65 is entitled to a survivor benefit calculated as in 1 above whenever she or he is disabled. If the disabled surviving spouse or common-law partner recovers from disability before age 45, the survivor benefit is discontinued or reduced to what it would be for a new survivor in accordance with 2 above.

5. Survivor Age 65 or Over

At age 65, or upon becoming widowed at a later age, an eligible surviving spouse or common-law partner is entitled to a monthly benefit equal to 60% of the retirement pension of the deceased contributor with no actuarial adjustment.

D. Description of Data

Human Resources and Skills Development Canada (HRSDC) provided us with a 31 December 2007 extract of the CPP Master Benefit File, which contains information on all CPP benefits paid in each month since 1966 when the CPP was established. The study covers the ten year period 1996 to 2005 and compares the results of the study to the 2005 CHMD. Each data record was validated and it was found that only a small portion (less than 0.1%) of them to have incorrect or missing data; these records were discarded. This study includes 359,000 deaths and 8.8 million life-years of exposure.

A graduated 2005 Canadian Human Mortality Database (CHMD) Life Table for Canada less Québec was estimated to portray the mortality experience of the general Canada Pension Plan population and was used to develop comparative measures of expected longevity. The table for Canada less Québec was derived by graduating the age-sex-specific mortality rates that prevailed over year 2005. The resulting CHMD table for Canada less Québec was also extended from age 109 to 120.

E. Methodology

This section provides a general overview of the methodology used to develop the mortality rates of CPP survivor beneficiaries over the experience period 1 January 1996 to 31 December 2005.

The final CPP survivor mortality represents our best-estimate for year 2005 and is derived using the following four-step process:

1. Production of Annual Crude Survivor Mortality Rates

The crude survivor mortality rate for a given age at last birthday in any given calendar year is the probability that a person at that age on 1 January dies by 31 December of that year. Crude mortality rates are usually calculated by simply dividing the relevant number of deaths by the number of exposures, where the number of exposures is the number of lives at the beginning of the year or period and are thus exposed to the risk of dying over that period. For this study, annual crude mortality rates were determined using the Product-Limit Estimator (PLE) method, also known as the Kaplan-Meier Product-Limit Estimator method by using the survival rates for all levels of survivor pension. Further details of this method are provided in Appendix C.

2. Production of Credibility Survivor Mortality Rates

Calculation of credibility mortality rates by gender, year and age is based on whether the number of deaths for a given gender year and age is less than a certain level. If this occurs then the assumed mortality rate will be between the observed crude rate and the corresponding general population (2005 CHMD) mortality rate.

3. Production of the 2005 Crude Survivor Mortality Rates

The 2005 crude survivor mortality rates were derived from the credibility crude survivor mortality rates over the period 1996 to 2005 by using regressions on the logarithm of the crude rates.

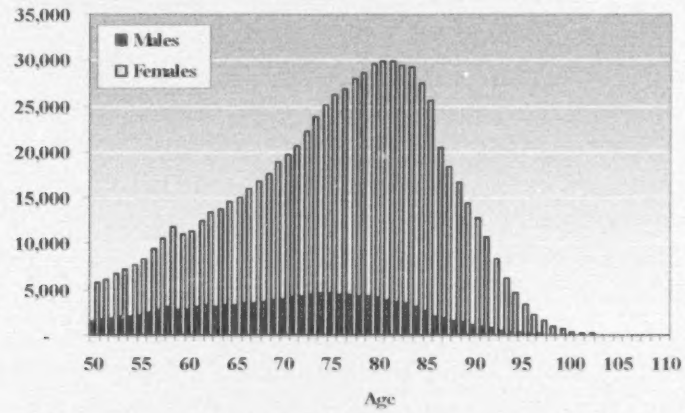
4. Production of the 2005 Graduated Survivor Mortality Rates

The 2005 crude survivor mortality rates for all levels of pension were graduated to reflect a compromise between smoothness and fit. A graduation method was used to smooth rates. A final adjustment was made for both genders where their mortality rates for ages less than 50 were set equal to those of the general population. At the advanced ages, males mortality rates from ages 93 and over were assumed to converge linearly to the general population at

age 110 and female mortality rates at ages 94 and over were assumed to be equal to those of the general population.

Male survivor exposures are considerably lower than for females at all ages. One reason is that CPP participation rates for females have historically been lower than males, meaning fewer potential male survivors. A second reason is that new survivors are predominantly females because male mortality is materially higher than for females. As well, male spouses on average are several years older than female spouses. The exposures of CPP survivor beneficiaries for year 2005 are presented in Chart 32.

Chart 32 CPP Survivor Beneficiary Exposures by Gender – 2005



F. Results

1. Results by Sex

Charts 33 and 34 show the 2005 mortality rates derived for CPP survivor beneficiary's mortality rates and the ratio of female to male survivor mortality, respectively. Chart 35 confirms that there is a gender gap in survivor mortality but that the pattern is unique. At age 50 female mortality rates are 85% of male rates with the ratio dropping to only 58% by age 72. The gap after age 65 gradually disappears by age 109.

Chart 35 is particularly useful because it expresses CPP survivor mortality rates relative to the rates for the general population. CPP survivor beneficiary mortality is seen to be significantly higher than that of the general population. One reason might be that survivors are deeply affected by the loss of their spouse, especially at the older ages where the survivor may already be in a weakened condition. Also in some cases one could assume that losing part of the primary source of income adds stress to the survivors.

The male and female mortality ratio curves have different shapes. Male mortality ratios are generally increasing from age 50 to age 62 and then they decrease monotonically. Female mortality ratios are generally decreasing but fluctuating from age 50 to age 62 and then decrease up to age 94 where it is assumed to be at the mortality level of the general population. At age 50, male mortality rates are 8% higher than the general population while

female rates are about 43% higher. At age 65 the excess reaches 30% for males and 35% for females and then they each converge gradually to the mortality of the general population. Table 23 shows the resulting survivor beneficiary mortality rates and general population mortality ratios by age and sex.

Chart 33 CPP Survivor Beneficiary Mortality Rates - 2005
(annual deaths per thousand persons)

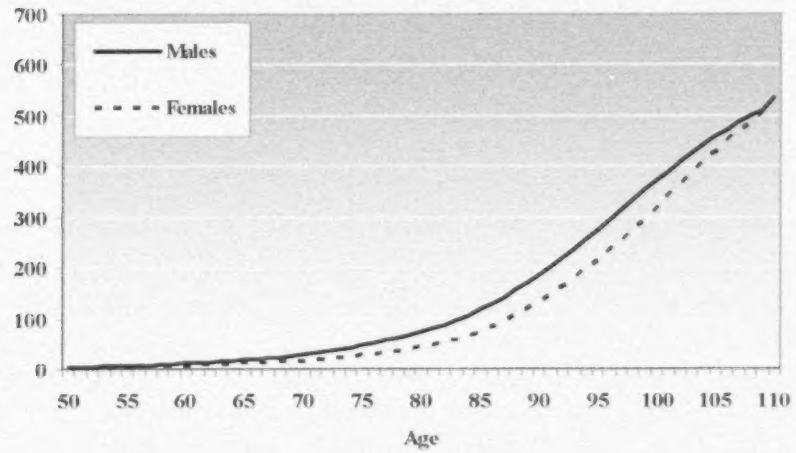


Chart 34 Female/Male Ratio of CPP Survivor Mortality - 2005

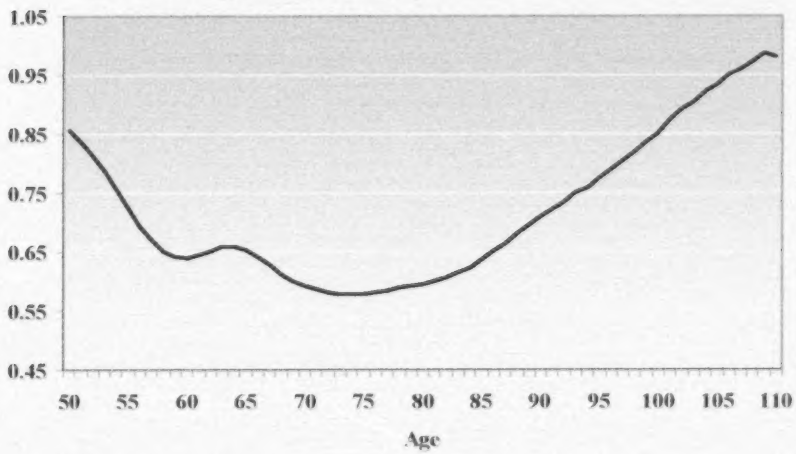


Chart 35 CPP Survivor Mortality Ratios Relative to General Population - 2005

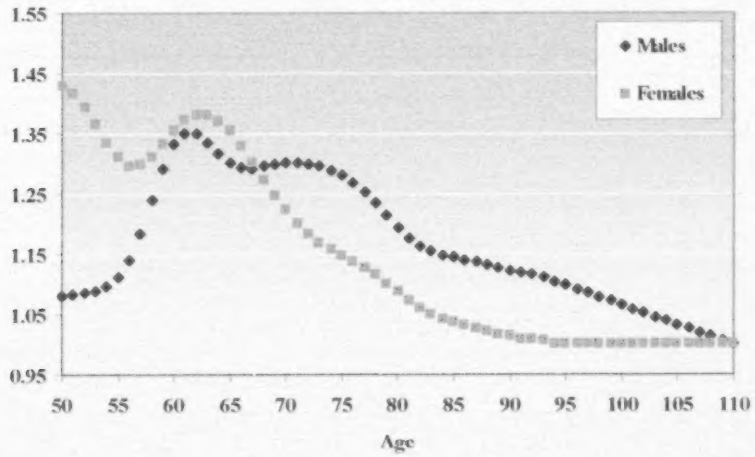


Table 23 CPP Survivor Beneficiary Mortality Rates and Ratios – 2005

	Mortality Rates (per thousand)				Mortality Ratios for CPP Survivors		
	General Population[1]		CPP Survivors				
Age	Male	Female	Male	Female	Male	Female	Female Vs. Male
50	3.5	2.3	3.8	3.2	1.08	1.43	0.85
51	3.9	2.5	4.2	3.5	1.08	1.42	0.84
52	4.2	2.7	4.6	3.8	1.09	1.39	0.81
53	4.7	2.9	5.1	4.0	1.09	1.37	0.79
54	5.1	3.2	5.6	4.2	1.10	1.34	0.76
55	5.6	3.4	6.2	4.5	1.11	1.31	0.73
56	6.1	3.7	7.0	4.8	1.14	1.30	0.70
57	6.7	4.1	7.9	5.3	1.18	1.30	0.67
58	7.3	4.5	9.0	5.9	1.24	1.31	0.65
59	7.9	4.9	10.2	6.6	1.29	1.33	0.64
60	8.7	5.4	11.5	7.4	1.33	1.36	0.64
61	9.5	6.0	12.8	8.3	1.35	1.37	0.64
62	10.5	6.6	14.1	9.2	1.35	1.38	0.65
63	11.5	7.3	15.4	10.1	1.34	1.38	0.66
64	12.7	8.0	16.7	11.0	1.32	1.37	0.66
65	13.9	8.7	18.1	11.8	1.30	1.35	0.65
66	15.3	9.5	19.8	12.7	1.29	1.33	0.64
67	16.8	10.4	21.7	13.6	1.29	1.30	0.63
68	18.4	11.5	23.8	14.6	1.29	1.27	0.61
69	20.2	12.6	26.3	15.8	1.30	1.25	0.60
70	22.3	14.0	29.0	17.1	1.30	1.22	0.59
71	24.5	15.5	31.9	18.7	1.30	1.20	0.58
72	27.1	17.3	35.2	20.5	1.30	1.18	0.58
73	29.9	19.2	38.8	22.4	1.30	1.17	0.58
74	33.1	21.3	42.6	24.7	1.29	1.16	0.58
75	36.6	23.6	46.8	27.1	1.28	1.15	0.58
76	40.4	26.2	51.3	29.8	1.27	1.14	0.58
77	44.7	29.0	56.0	32.7	1.25	1.13	0.58
78	49.5	32.2	61.1	35.9	1.23	1.12	0.59
79	54.8	35.7	66.5	39.4	1.21	1.10	0.59
80	60.8	39.7	72.5	43.2	1.19	1.09	0.60
81	67.5	44.4	79.3	47.6	1.18	1.07	0.60
82	74.9	49.8	87.1	52.8	1.16	1.06	0.61
83	83.0	56.0	95.8	58.8	1.15	1.05	0.61
84	92.0	63.2	105.7	65.8	1.15	1.04	0.62
85	101.9	71.4	116.5	74.0	1.14	1.04	0.63
86	112.6	80.7	128.3	83.3	1.14	1.03	0.65
87	124.2	91.2	141.1	93.7	1.14	1.03	0.66
88	136.7	102.8	154.6	105.1	1.13	1.02	0.68
89	150.2	115.4	169.1	117.5	1.13	1.02	0.69
90	164.6	129.1	184.6	130.9	1.12	1.01	0.71
95	249.6	212.2	274.1	212.2	1.10	1.00	0.77
100	349.1	316.4	371.9	316.4	1.07	1.00	0.85
105	442.7	427.0	457.2	427.0	1.03	1.00	0.93
110	535.0	525.1	535.0	525.1	1.00	1.00	0.98
115	650.5	613.2	650.5	613.2	1.00	1.00	0.94
120	700.0	650.0	700.0	650.0	1.00	1.00	0.93

[1] Derived from CHMD Canada and Québec Tables using the 2005 population as weights.

2. Mortality Improvements and Life Expectancies

Annual mortality improvement rates for survivor beneficiaries were calculated over the period 1990-2005 by age group and sex. As a comparison, Table 24 also shows the general population mortality improvement rates for the same period.

Over the years 1990 to 2005, the survivor beneficiary mortality improved at a lower rate than of the general population for ages over 60.

Table 24 CPP Survivor Beneficiary Annual Mortality Improvement Rates

	Males		Females	
Age Group	General Population [1] (1990-2005)	CPP Survivors Beneficiaries (1990-2005)	General Population [1] (1990-2005)	CPP Survivors Beneficiaries (1990-2005)
50-54	2.1%	2.5%	1.5%	1.3%
55-59	2.5%	3.1%	1.7%	1.5%
60-64	2.6%	2.3%	1.4%	0.4%
65-69	2.6%	2.4%	1.5%	0.8%
70-74	2.4%	1.9%	1.4%	0.7%
75-79	2.1%	1.6%	1.4%	0.7%
80-84	1.7%	1.2%	1.2%	0.7%
85-89	1.0%	0.4%	0.6%	0.4%
90-95	0.1%	0.2%	0.1%	-0.3%
65-84	**2.2%**	**1.6%**	**1.3%**	**0.7%**

[1] Obtained by comparing the crude death rates (ratio of annual deaths as a proportion of the population of each year as provided by CHMD and by using the 2005 population as weights).

Table 25 shows life expectancies of survivor beneficiaries without future mortality improvements based on the graduated mortality rates obtained for year 2005. For comparison purposes, the table also shows the general population life expectancy at comparable ages. At age 50, male CPP survivor beneficiary life expectancies are lower than the life expectancy of the general population by 1.9 years while the differential of life expectancy for females is 1.3 years. At age 80, male CPP survivor beneficiary life expectancies are lower than the life expectancy of the general population by 0.7 years while the differential of life expectancy for females is 0.2 years.

Table 25 CPP Survivor Beneficiary Life Expectancies - 2005

	Male			Female		
Age	General Population	CPP Survivor	Difference	General Population	CPP Survivor	Difference
50	30.5	28.6	1.9	34.1	32.8	1.3
55	26.1	24.2	1.9	29.6	28.4	1.2
60	21.9	20.1	1.8	25.1	24.1	1.0
65	17.9	16.3	1.6	20.9	20.1	0.8
70	14.3	12.9	1.4	16.9	16.3	0.6
75	11.0	10.0	1.0	13.2	12.9	0.3
80	8.2	7.5	0.7	9.9	9.7	0.2
85	5.9	5.4	0.5	7.1	7.0	0.1
90	4.2	3.8	0.4	4.9	4.8	0.1

VI. Appendices

Appendix A Life Tables for Canada less Québec (23rd CPP Actuarial Report)

Calendar Year 1930

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.091663	100,000	9,166	92,667	5,969,189	59.69	0	.073030	100,000	7,303	94,158	6,256,142	62.56
1	.010691	90,834	971	90,348	5,876,522	64.70	1	.009642	92,697	894	92,250	6,161,985	66.47
2	.005448	89,863	490	89,618	5,786,174	64.39	2	.004447	91,803	408	91,599	6,069,734	66.12
3	.004150	89,373	371	89,188	5,696,556	63.74	3	.003257	91,395	298	91,246	5,978,135	65.41
4	.003213	89,002	286	88,859	5,607,369	63.00	4	.002683	91,097	244	90,975	5,886,889	64.62
5	.002555	88,716	227	88,603	5,518,509	62.20	5	.002378	90,853	216	90,745	5,795,914	63.79
6	.002535	88,490	224	88,377	5,429,907	61.36	6	.001751	90,637	159	90,558	5,705,169	62.95
7	.002406	88,265	212	88,159	5,341,529	60.52	7	.001530	90,478	138	90,409	5,614,611	62.05
8	.002168	88,053	191	87,957	5,253,370	59.66	8	.001620	90,340	146	90,267	5,524,202	61.15
9	.002136	87,862	188	87,768	5,165,413	58.79	9	.001481	90,193	134	90,127	5,433,936	60.25
10	.001737	87,674	152	87,598	5,077,645	57.91	10	.001407	90,060	127	89,997	5,343,809	59.34
11	.001502	87,522	131	87,456	4,990,046	57.01	11	.001435	89,933	129	89,869	5,253,813	58.42
12	.001625	87,391	142	87,320	4,902,590	56.10	12	.001252	89,804	112	89,748	5,163,944	57.50
13	.001674	87,249	146	87,176	4,815,270	55.19	13	.001351	89,692	121	89,631	5,074,196	56.57
14	.001800	87,103	157	87,024	4,728,095	54.28	14	.001879	89,571	168	89,486	4,984,565	55.65
15	.002320	86,946	202	86,845	4,641,071	53.38	15	.002113	89,402	189	89,308	4,895,078	54.75
16	.002715	86,744	235	86,626	4,554,226	52.50	16	.002173	89,213	194	89,117	4,805,770	53.87
17	.002729	86,509	236	86,391	4,467,599	51.64	17	.002299	89,020	205	88,917	4,716,654	52.98
18	.002760	86,273	238	86,154	4,381,209	50.78	18	.002428	88,815	216	88,707	4,627,736	52.11
19	.002952	86,034	254	85,907	4,295,055	49.92	19	.003055	88,599	271	88,464	4,539,029	51.23
20	.003300	85,780	283	85,639	4,209,148	49.07	20	.002884	88,329	255	88,201	4,450,565	50.39
21	.003525	85,497	301	85,347	4,123,509	48.23	21	.003056	88,074	269	87,939	4,362,364	49.53
22	.003193	85,196	272	85,060	4,038,162	47.40	22	.003062	87,805	269	87,670	4,274,424	48.68
23	.003596	84,924	305	84,771	3,953,102	46.55	23	.003202	87,536	280	87,396	4,186,754	47.83
24	.003990	84,619	338	84,450	3,868,331	45.71	24	.003625	87,256	316	87,098	4,099,358	46.98
25	.003456	84,281	291	84,135	3,783,881	44.90	25	.003800	86,939	330	86,774	4,012,261	46.15
26	.003437	83,990	289	83,845	3,699,746	44.05	26	.003375	86,609	292	86,463	3,925,486	45.32
27	.003602	83,701	301	83,550	3,615,900	43.20	27	.003748	86,317	324	86,155	3,839,023	44.48
28	.003886	83,400	324	83,237	3,532,350	42.35	28	.003360	85,993	289	85,849	3,752,868	43.64
29	.003600	83,075	299	82,926	3,449,113	41.52	29	.003880	85,704	333	85,538	3,667,020	42.79
30	.004289	82,776	355	82,599	3,366,187	40.67	30	.003899	85,372	333	85,205	3,581,481	41.95
31	.003005	82,421	248	82,297	3,283,588	39.84	31	.003416	85,039	290	84,894	3,496,276	41.11
32	.003436	82,174	282	82,032	3,201,291	38.96	32	.003649	84,748	309	84,594	3,411,382	40.25
33	.003148	81,891	258	81,762	3,119,258	38.09	33	.004085	84,439	345	84,267	3,326,788	39.40
34	.003468	81,633	283	81,492	3,037,496	37.21	34	.003500	84,094	294	83,947	3,242,522	38.56
35	.004369	81,350	355	81,173	2,956,004	36.34	35	.004443	83,800	372	83,614	3,158,574	37.69
36	.003696	80,995	299	80,845	2,874,831	35.49	36	.004347	83,428	363	83,246	3,074,961	36.86
37	.004075	80,696	329	80,531	2,793,986	34.62	37	.004540	83,065	377	82,876	2,991,714	36.02
38	.004490	80,367	361	80,186	2,713,455	33.76	38	.004631	82,688	383	82,496	2,908,838	35.18
39	.005202	80,006	416	79,798	2,633,269	32.91	39	.004364	82,305	359	82,125	2,826,341	34.34
40	.005906	79,590	470	79,355	2,553,471	32.08	40	.005449	81,946	447	81,723	2,744,216	33.49
41	.004297	79,120	340	78,950	2,474,116	31.27	41	.004585	81,499	374	81,312	2,662,493	32.67
42	.006204	78,780	489	78,535	2,395,167	30.40	42	.005371	81,126	436	80,908	2,581,181	31.82
43	.005165	78,291	404	78,089	2,316,631	29.59	43	.005890	80,690	475	80,452	2,500,273	30.99
44	.005425	77,886	423	77,675	2,238,543	28.74	44	.006366	80,215	511	79,959	2,419,821	30.17
45	.007812	77,464	605	77,161	2,160,867	27.90	45	.005869	79,704	468	79,470	2,339,862	29.36
46	.006181	76,859	475	76,621	2,083,706	27.11	46	.005777	79,236	458	79,007	2,260,391	28.53
47	.006857	76,384	524	76,122	2,007,085	26.28	47	.006485	78,779	511	78,523	2,181,384	27.69
48	.008221	75,860	624	75,548	1,930,963	25.45	48	.007169	78,268	561	77,987	2,102,861	26.87
49	.008281	75,236	623	74,925	1,855,415	24.66	49	.007528	77,707	585	77,414	2,024,874	26.06
50	.010360	74,613	773	74,227	1,780,490	23.86	50	.008659	77,122	668	76,788	1,947,460	25.25
51	.008619	73,840	636	73,522	1,706,263	23.11	51	.008021	76,454	613	76,147	1,870,672	24.47
52	.011231	73,204	822	72,793	1,632,741	22.30	52	.009418	75,841	714	75,483	1,794,525	23.66
53	.010778	72,382	780	71,992	1,559,948	21.55	53	.008971	75,126	674	74,789	1,719,042	22.88
54	.011485	71,602	822	71,190	1,487,956	20.78	54	.010301	74,452	767	74,069	1,644,252	22.08
55	.013692	70,779	969	70,295	1,416,766	20.02	55	.012093	73,685	891	73,240	1,570,183	21.31
56	.014684	69,810	1,025	69,298	1,346,471	19.29	56	.011649	72,794	848	72,370	1,496,943	20.56
57	.014388	68,785	990	68,290	1,277,174	18.57	57	.012728	71,946	916	71,489	1,424,573	19.80
58	.017027	67,795	1,154	67,218	1,208,883	17.83	58	.015148	71,031	1,076	70,493	1,353,085	19.05
59	.017221	66,641	1,148	66,067	1,141,665	17.13	59	.015544	69,955	1,087	69,411	1,282,592	18.33

Calendar Year 1930 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.023212	65,493	1,520	64,733	1,075,598	16.42	60	.017855	68,867	1,230	68,253	1,213,181	17.62
61	.016104	63,973	1,030	63,458	1,010,865	15.80	61	.015487	67,638	1,048	67,114	1,144,928	16.93
62	.021604	62,943	1,360	62,263	947,407	15.05	62	.018486	66,590	1,231	65,975	1,077,814	16.19
63	.025336	61,583	1,560	60,803	885,144	14.37	63	.019493	65,359	1,274	64,722	1,011,840	15.48
64	.026900	60,023	1,615	59,216	824,341	13.73	64	.023530	64,085	1,508	63,331	947,117	14.78
65	.033246	58,408	1,942	57,437	765,125	13.10	65	.029353	62,577	1,837	61,659	883,786	14.12
66	.032166	56,466	1,816	55,558	707,688	12.53	66	.025034	60,740	1,521	59,980	822,127	13.54
67	.033001	54,650	1,804	53,748	652,129	11.93	67	.030454	59,220	1,803	58,318	762,147	12.87
68	.039645	52,847	2,095	51,799	598,381	11.32	68	.035692	57,416	2,049	56,392	703,829	12.26
69	.041620	50,752	2,112	49,695	546,582	10.77	69	.035142	55,367	1,946	54,394	647,437	11.69
70	.050639	48,639	2,463	47,408	496,887	10.22	70	.044046	53,421	2,353	52,245	593,043	11.10
71	.043738	46,176	2,020	45,166	449,479	9.73	71	.037087	51,068	1,894	50,121	540,798	10.59
72	.057626	44,157	2,545	42,884	404,312	9.16	72	.048143	49,174	2,367	47,991	490,677	9.98
73	.057190	41,612	2,380	40,422	361,428	8.69	73	.053206	46,807	2,490	45,562	442,686	9.46
74	.068650	39,232	2,693	37,886	321,006	8.18	74	.054785	44,317	2,428	43,103	397,124	8.96
75	.076014	36,539	2,777	35,150	283,121	7.75	75	.071030	41,889	2,975	40,401	354,022	8.45
76	.080644	33,761	2,723	32,400	247,970	7.34	76	.070243	38,913	2,733	37,547	313,621	8.06
77	.079653	31,039	2,472	29,803	215,570	6.95	77	.072581	36,180	2,626	34,867	276,074	7.63
78	.099198	28,566	2,834	27,150	185,768	6.50	78	.083927	33,554	2,816	32,146	241,207	7.19
79	.108107	25,733	2,782	24,342	158,618	6.16	79	.092984	30,738	2,858	29,309	209,061	6.80
80	.116131	22,951	2,665	21,618	134,276	5.85	80	.099643	27,880	2,778	26,491	179,752	6.45
81	.098458	20,286	1,997	19,287	112,658	5.55	81	.092962	25,102	2,333	23,935	153,262	6.11
82	.132815	18,288	2,429	17,074	93,371	5.11	82	.107636	22,768	2,451	21,543	129,327	5.68
83	.142136	15,859	2,254	14,732	76,297	4.81	83	.127916	20,318	2,599	19,018	107,784	5.30
84	.159560	13,605	2,171	12,520	61,565	4.53	84	.142075	17,719	2,517	16,460	88,766	5.01
85	.166208	11,434	1,900	10,484	49,045	4.29	85	.143856	15,201	2,187	14,108	72,306	4.76
86	.174274	9,534	1,662	8,703	38,561	4.04	86	.159086	13,014	2,070	11,979	58,198	4.47
87	.203757	7,872	1,604	7,070	29,858	3.79	87	.170960	10,944	1,871	10,009	46,219	4.22
88	.205435	6,268	1,288	5,624	22,788	3.64	88	.188490	9,073	1,710	8,218	36,210	3.99
89	.207856	4,981	1,035	4,463	17,163	3.45	89	.164242	7,363	1,209	6,758	27,992	3.80
90	.229195	3,945	904	3,493	12,700	3.22	90	.252113	6,154	1,551	5,378	21,234	3.45
91	.229670	3,041	698	2,692	9,207	3.03	91	.170419	4,602	784	4,210	15,856	3.45
92	.254071	2,343	595	2,045	6,515	2.78	92	.291948	3,818	1,115	3,261	11,646	3.05
93	.324481	1,747	567	1,464	4,470	2.56	93	.219345	2,703	593	2,407	8,385	3.10
94	.297473	1,180	351	1,005	3,006	2.55	94	.266084	2,110	562	1,830	5,979	2.83
95	.314252	829	261	699	2,001	2.41	95	.282146	1,549	437	1,330	4,149	2.68
96	.330265	569	188	475	1,302	2.29	96	.298930	1,112	332	946	2,819	2.54
97	.347646	381	132	315	828	2.17	97	.315532	779	246	656	1,873	2.40
98	.365973	248	91	203	513	2.06	98	.332305	534	177	445	1,217	2.28
99	.383219	158	60	127	310	1.97	99	.348966	356	124	294	772	2.17
100	.399942	97	39	78	183	1.88	100	.366389	232	85	189	478	2.06
101	.415727	58	24	46	105	1.80	101	.383368	147	56	119	288	1.96
102	.431214	34	15	27	59	1.72	102	.398944	91	36	73	170	1.87
103	.447470	19	9	15	32	1.65	103	.417755	54	23	43	97	1.78
104	.462040	11	5	8	17	1.59	104	.434070	32	14	25	54	1.70
105	.476040	6	3	4	9	1.52	105	.448870	18	8	14	29	1.62
106	.489460	3	1	2	4	1.45	106	.463180	10	5	8	15	1.53
107	.502250	2	1	1	2	1.35	107	.476940	5	3	4	8	1.42
108	.514410	1	0	1	1	1.22	108	.490130	3	1	2	4	1.26
109	.525930	0	0	0	0	0.97	109	.502710	1	1	1	1	1.00
110	1.000000	0	0	0	0	0.50	110	1.000000	1	1	0	0	0.50
111	.000000	0	0	0	0	0.00	111	.000000	0	0	0	0	0.00
112	.000000	0	0	0	0	0.00	112	.000000	0	0	0	0	0.00
113	.000000	0	0	0	0	0.00	113	.000000	0	0	0	0	0.00
114	.000000	0	0	0	0	0.00	114	.000000	0	0	0	0	0.00
115	.000000	0	0	0	0	0.00	115	.000000	0	0	0	0	0.00
116	.000000	0	0	0	0	0.00	116	.000000	0	0	0	0	0.00
117	.000000	0	0	0	0	0.00	117	.000000	0	0	0	0	0.00
118	.000000	0	0	0	0	0.00	118	.000000	0	0	0	0	0.00
119	.000000	0	0	0	0	0.00	119	.000000	0	0	0	0	0.00
120	.000000	0	0	0	0	0.00	120	.000000	0	0	0	0	0.00

Calendar Year 1940

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.060918	100,000	6,092	95,127	6,372,038	63.72	0	.049349	100,000	4,935	96,052	6,706,296	67.06
1	.006428	93,908	604	93,606	6,276,911	66.84	1	.005776	95,065	549	94,791	6,610,244	69.53
2	.003359	93,305	313	93,148	6,183,305	66.27	2	.002835	94,516	268	94,382	6,515,453	68.93
3	.002460	92,991	229	92,877	6,090,157	65.49	3	.002002	94,248	189	94,154	6,421,071	68.13
4	.001938	92,762	180	92,673	5,997,280	64.65	4	.001594	94,059	150	93,984	6,326,918	67.27
5	.001638	92,583	152	92,507	5,904,608	63.78	5	.001565	93,909	147	93,836	6,232,933	66.37
6	.001611	92,431	149	92,357	5,812,101	62.88	6	.001269	93,763	119	93,703	6,139,097	65.47
7	.001336	92,282	123	92,221	5,719,744	61.98	7	.000974	93,643	91	93,598	6,045,394	64.56
8	.001450	92,159	134	92,092	5,627,524	61.06	8	.000788	93,552	74	93,515	5,951,796	63.62
9	.001260	92,025	116	91,967	5,535,432	60.15	9	.001141	93,479	107	93,425	5,858,281	62.67
10	.001230	91,909	113	91,853	5,443,464	59.23	10	.001161	93,372	108	93,318	5,764,856	61.74
11	.000995	91,796	91	91,751	5,351,612	58.30	11	.000874	93,264	82	93,223	5,671,538	60.81
12	.001130	91,705	104	91,653	5,259,861	57.36	12	.000915	93,182	85	93,139	5,578,315	59.86
13	.001077	91,601	99	91,552	5,168,208	56.42	13	.001066	93,097	99	93,047	5,485,176	58.92
14	.001345	91,503	123	91,441	5,076,656	55.48	14	.001019	92,998	95	92,950	5,392,129	57.98
15	.001753	91,379	160	91,299	4,985,215	54.56	15	.001105	92,903	103	92,851	5,299,178	57.04
16	.001943	91,219	177	91,131	4,893,916	53.65	16	.001081	92,800	100	92,750	5,206,327	56.10
17	.001934	91,042	176	90,954	4,802,785	52.75	17	.001266	92,700	117	92,641	5,113,577	55.16
18	.001978	90,866	180	90,776	4,711,831	51.85	18	.001241	92,582	115	92,525	5,020,936	54.23
19	.002350	90,686	213	90,580	4,621,055	50.96	19	.001532	92,468	142	92,397	4,928,411	53.30
20	.002119	90,473	192	90,377	4,530,476	50.08	20	.001552	92,326	143	92,254	4,836,014	52.38
21	.002106	90,281	190	90,186	4,440,098	49.18	21	.001908	92,183	176	92,095	4,743,760	51.46
22	.001848	90,091	166	90,008	4,349,912	48.28	22	.001841	92,007	169	91,922	4,651,665	50.56
23	.002304	89,925	207	89,821	4,259,904	47.37	23	.001850	91,837	170	91,753	4,559,743	49.65
24	.002139	89,718	192	89,622	4,170,083	46.48	24	.001727	91,668	158	91,588	4,467,990	48.74
25	.002178	89,526	195	89,428	4,080,461	45.58	25	.001882	91,509	172	91,423	4,376,402	47.82
26	.002109	89,331	188	89,237	3,991,033	44.68	26	.002229	91,337	204	91,235	4,284,979	46.91
27	.002096	89,142	187	89,049	3,901,797	43.77	27	.001978	91,134	180	91,043	4,193,743	46.02
28	.002093	88,955	186	88,862	3,812,748	42.86	28	.002716	90,953	247	90,830	4,102,700	45.11
29	.002197	88,769	195	88,672	3,723,885	41.95	29	.002117	90,706	192	90,610	4,011,870	44.23
30	.002261	88,574	200	88,474	3,635,214	41.04	30	.002443	90,514	221	90,404	3,921,260	43.32
31	.002452	88,374	217	88,266	3,546,739	40.13	31	.002222	90,293	201	90,193	3,830,856	42.43
32	.003027	88,157	267	88,024	3,458,474	39.23	32	.002391	90,093	215	89,985	3,740,663	41.52
33	.002564	87,891	225	87,778	3,370,450	38.35	33	.002261	89,877	203	89,776	3,650,678	40.62
34	.002757	87,665	242	87,544	3,282,672	37.45	34	.002726	89,674	244	89,552	3,560,903	39.71
35	.003189	87,423	279	87,284	3,195,128	36.55	35	.002723	89,429	244	89,308	3,471,351	38.82
36	.003335	87,145	291	86,999	3,107,844	35.66	36	.003147	89,186	281	89,046	3,382,043	37.92
37	.003201	86,854	278	86,715	3,020,844	34.78	37	.003378	88,905	300	88,755	3,292,998	37.04
38	.003547	86,576	307	86,423	2,934,129	33.89	38	.002928	88,605	259	88,475	3,204,243	36.16
39	.004196	86,269	362	86,088	2,847,707	33.01	39	.004378	88,346	387	88,152	3,115,767	35.27
40	.004221	85,907	363	85,726	2,761,618	32.15	40	.003526	87,959	310	87,804	3,027,615	34.42
41	.003725	85,544	319	85,385	2,675,893	31.28	41	.003060	87,649	268	87,515	2,939,811	33.54
42	.004800	85,226	409	85,021	2,590,508	30.40	42	.004184	87,380	366	87,198	2,852,297	32.64
43	.004801	84,817	407	84,613	2,505,486	29.54	43	.004245	87,015	369	86,830	2,765,099	31.78
44	.004967	84,410	419	84,200	2,420,873	28.68	44	.003790	86,645	328	86,481	2,678,269	30.91
45	.005815	83,990	488	83,746	2,336,673	27.82	45	.004687	86,317	405	86,115	2,591,788	30.03
46	.005748	83,502	480	83,262	2,252,927	26.98	46	.004766	85,913	409	85,708	2,505,673	29.17
47	.006225	83,022	517	82,764	2,169,665	26.13	47	.005273	85,503	451	85,278	2,419,965	28.30
48	.006766	82,505	558	82,226	2,086,902	25.29	48	.005850	85,052	498	84,803	2,334,688	27.45
49	.007447	81,947	610	81,642	2,004,676	24.46	49	.006398	84,555	541	84,284	2,249,884	26.61
50	.009413	81,337	766	80,954	1,923,034	23.64	50	.006986	84,014	587	83,720	2,165,600	25.78
51	.008228	80,571	663	80,240	1,842,080	22.86	51	.006859	83,427	572	83,141	2,081,880	24.95
52	.010197	79,908	815	79,501	1,761,841	22.05	52	.009073	82,855	752	82,479	1,998,739	24.12
53	.010629	79,093	841	78,673	1,682,340	21.27	53	.008565	82,103	703	81,751	1,916,261	23.34
54	.012392	78,253	970	77,768	1,603,667	20.49	54	.009088	81,400	740	81,030	1,834,510	22.54
55	.013127	77,283	1,014	76,776	1,525,899	19.74	55	.009673	80,660	780	80,270	1,753,480	21.74
56	.014365	76,268	1,096	75,721	1,449,124	19.00	56	.010484	79,880	837	79,461	1,673,210	20.95
57	.014992	75,173	1,127	74,609	1,373,403	18.27	57	.010922	79,042	863	78,611	1,593,749	20.16
58	.017909	74,046	1,326	73,383	1,298,794	17.54	58	.012663	78,179	990	77,684	1,515,139	19.38
59	.018164	72,720	1,321	72,059	1,225,411	16.85	59	.013257	77,189	1,023	76,677	1,437,455	18.62

Calendar Year 1940 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.021927	71,399	1,566	70,616	1,153,352	16.15	60	.015546	76,166	1,184	75,574	1,360,778	17.87
61	.018026	69,833	1,259	69,204	1,082,736	15.50	61	.014729	74,982	1,104	74,429	1,285,204	17.14
62	.024832	68,574	1,703	67,723	1,013,532	14.78	62	.017435	73,877	1,288	73,233	1,210,775	16.39
63	.025914	66,872	1,733	66,005	945,809	14.14	63	.019802	72,589	1,437	71,871	1,137,541	15.67
64	.029088	65,139	1,895	64,191	879,804	13.51	64	.020627	71,152	1,468	70,418	1,065,671	14.98
65	.033269	63,244	2,104	62,192	815,613	12.90	65	.025260	69,684	1,760	68,804	995,253	14.28
66	.030773	61,140	1,881	60,199	753,421	12.32	66	.023908	67,924	1,624	67,112	926,449	13.64
67	.037131	59,258	2,200	58,158	693,222	11.70	67	.027079	66,300	1,795	65,402	859,337	12.96
68	.041817	57,058	2,386	55,865	635,063	11.13	68	.032906	64,505	2,123	63,443	793,934	12.31
69	.044377	54,672	2,426	53,459	579,198	10.59	69	.034524	62,382	2,154	61,305	730,491	11.71
70	.048917	52,246	2,556	50,968	525,739	10.06	70	.041945	60,228	2,526	58,965	669,186	11.11
71	.046236	49,690	2,297	48,542	474,771	9.55	71	.037757	57,702	2,179	56,613	610,220	10.58
72	.059910	47,393	2,839	45,973	426,229	8.99	72	.048013	55,523	2,666	54,191	553,608	9.97
73	.063220	44,554	2,817	43,145	380,256	8.53	73	.050596	52,858	2,674	51,520	499,417	9.45
74	.068401	41,737	2,855	40,309	337,111	8.08	74	.056006	50,183	2,811	48,778	447,897	8.93
75	.069638	38,882	2,708	37,528	296,802	7.63	75	.065285	47,373	3,093	45,826	399,119	8.43
76	.082820	36,174	2,996	34,676	259,273	7.17	76	.071072	44,280	3,147	42,706	353,293	7.98
77	.086050	33,178	2,855	31,751	224,597	6.77	77	.074827	41,133	3,078	39,594	310,586	7.55
78	.095353	30,323	2,891	28,878	192,846	6.36	78	.085379	38,055	3,249	36,431	270,992	7.12
79	.109143	27,432	2,994	25,935	163,969	5.98	79	.098373	34,806	3,424	33,094	234,562	6.74
80	.117017	24,438	2,860	23,008	138,034	5.65	80	.102878	31,382	3,229	29,768	201,468	6.42
81	.113916	21,578	2,458	20,349	115,025	5.33	81	.087979	28,153	2,477	26,915	171,700	6.10
82	.133939	19,120	2,561	17,840	94,676	4.95	82	.111213	25,677	2,856	24,249	144,785	5.64
83	.147459	16,559	2,442	15,338	76,836	4.64	83	.126933	22,821	2,897	21,373	120,536	5.28
84	.170132	14,117	2,402	12,917	61,498	4.36	84	.126301	19,924	2,516	18,666	99,164	4.98
85	.169847	11,716	1,990	10,721	48,582	4.15	85	.147459	17,408	2,567	16,124	80,498	4.62
86	.189377	9,726	1,842	8,805	37,861	3.89	86	.167128	14,841	2,480	13,601	64,373	4.34
87	.208008	7,884	1,640	7,064	29,056	3.69	87	.181700	12,361	2,246	11,238	50,773	4.11
88	.208992	6,244	1,305	5,592	21,992	3.52	88	.178228	10,115	1,803	9,213	39,535	3.91
89	.225816	4,939	1,115	4,381	16,401	3.32	89	.212093	8,312	1,763	7,430	30,322	3.65
90	.257630	3,824	985	3,331	12,019	3.14	90	.216482	6,549	1,418	5,840	22,891	3.50
91	.230561	2,839	654	2,511	8,688	3.06	91	.206656	5,131	1,060	4,601	17,051	3.32
92	.243601	2,184	532	1,918	6,177	2.83	92	.259061	4,071	1,055	3,544	12,450	3.06
93	.297171	1,652	491	1,407	4,259	2.58	93	.231208	3,016	697	2,668	8,906	2.95
94	.307860	1,161	357	982	2,852	2.46	94	.279023	2,319	647	1,995	6,239	2.69
95	.325668	804	262	673	1,869	2.33	95	.297177	1,672	497	1,423	4,243	2.54
96	.342511	542	186	449	1,197	2.21	96	.314778	1,175	370	990	2,820	2.40
97	.359391	356	128	292	748	2.10	97	.331773	805	267	672	1,830	2.27
98	.378059	228	86	185	455	1.99	98	.349723	538	188	444	1,158	2.15
99	.394892	142	56	114	270	1.90	99	.368679	350	129	285	714	2.04
100	.411621	86	35	68	156	1.82	100	.386098	221	85	178	429	1.94
101	.427616	51	22	40	88	1.74	101	.403861	136	55	108	251	1.85
102	.443549	29	13	23	48	1.67	102	.421294	81	34	64	143	1.76
103	.459675	16	7	12	26	1.60	103	.439350	47	21	37	79	1.68
104	.475640	9	4	7	13	1.53	104	.454960	26	12	20	42	1.61
105	.489430	5	2	3	7	1.47	105	.469980	14	7	11	22	1.54
106	.502570	2	1	2	3	1.41	106	.484370	8	4	6	11	1.46
107	.515030	1	1	1	2	1.32	107	.498080	4	2	3	5	1.36
108	.526810	1	0	0	1	1.19	108	.511090	2	1	1	2	1.22
109	.537900	0	0	0	0	0.96	109	.523380	1	1	1	1	0.98
110	1.000000	0	0	0	0	0.50	110	1.000000	0	0	0	0	0.50
111	.000000	0	0	0	0	0.00	111	.000000	0	0	0	0	0.00
112	.000000	0	0	0	0	0.00	112	.000000	0	0	0	0	0.00
113	.000000	0	0	0	0	0.00	113	.000000	0	0	0	0	0.00
114	.000000	0	0	0	0	0.00	114	.000000	0	0	0	0	0.00
115	.000000	0	0	0	0	0.00	115	.000000	0	0	0	0	0.00
116	.000000	0	0	0	0	0.00	116	.000000	0	0	0	0	0.00
117	.000000	0	0	0	0	0.00	117	.000000	0	0	0	0	0.00
118	.000000	0	0	0	0	0.00	118	.000000	0	0	0	0	0.00
119	.000000	0	0	0	0	0.00	119	.000000	0	0	0	0	0.00
120	.000000	0	0	0	0	0.00	120	.000000	0	0	0	0	0.00

Calendar Year 1950

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.041052	100,000	4,105	96,716	6,682,410	66.82	0	.031501	100,000	3,150	97,480	7,143,605	71.44
1	.003166	95,895	304	95,743	6,585,694	68.68	1	.002554	96,850	247	96,726	7,046,125	72.75
2	.002065	95,591	197	95,493	6,489,951	67.89	2	.001618	96,603	156	96,524	6,949,399	71.94
3	.001704	95,394	163	95,313	6,394,458	67.03	3	.001376	96,446	133	96,380	6,852,875	71.05
4	.001294	95,231	123	95,170	6,299,146	66.15	4	.001021	96,314	98	96,264	6,756,495	70.15
5	.001031	95,108	98	95,059	6,203,976	65.23	5	.000780	96,215	75	96,178	6,660,230	69.22
6	.001110	95,010	105	94,957	6,108,917	64.30	6	.000775	96,140	75	96,103	6,564,052	68.28
7	.001015	94,905	96	94,856	6,013,959	63.37	7	.000670	96,066	64	96,034	6,467,950	67.33
8	.000882	94,808	84	94,767	5,919,103	62.43	8	.000775	96,001	74	95,964	6,371,916	66.37
9	.000747	94,725	71	94,689	5,824,336	61.49	9	.000377	95,927	36	95,909	6,275,952	65.42
10	.000709	94,654	67	94,620	5,729,647	60.53	10	.000450	95,891	43	95,869	6,180,043	64.45
11	.000843	94,587	80	94,547	5,635,027	59.58	11	.000411	95,848	39	95,828	6,084,174	63.48
12	.000839	94,507	79	94,467	5,540,480	58.63	12	.000579	95,808	56	95,781	5,988,346	62.50
13	.000828	94,428	78	94,389	5,446,012	57.67	13	.000717	95,753	69	95,718	5,892,565	61.54
14	.000911	94,350	86	94,307	5,351,624	56.72	14	.000792	95,684	76	95,646	5,796,847	60.58
15	.000997	94,264	94	94,217	5,257,317	55.77	15	.000615	95,608	59	95,579	5,701,201	59.63
16	.001035	94,170	97	94,121	5,163,100	54.83	16	.000583	95,550	56	95,522	5,605,622	58.67
17	.001359	94,072	128	94,008	5,068,979	53.88	17	.000817	95,494	78	95,455	5,510,100	57.70
18	.001586	93,944	149	93,870	4,974,971	52.96	18	.000564	95,416	54	95,389	5,414,645	56.75
19	.001568	93,796	147	93,722	4,881,101	52.04	19	.000873	95,362	83	95,320	5,319,256	55.78
20	.001899	93,648	178	93,560	4,787,379	51.12	20	.000945	95,279	90	95,234	5,223,936	54.83
21	.001538	93,471	144	93,399	4,693,819	50.22	21	.000728	95,189	69	95,154	5,128,702	53.88
22	.001626	93,327	152	93,251	4,600,421	49.29	22	.001013	95,119	96	95,071	5,033,548	52.92
23	.001791	93,175	167	93,092	4,507,170	48.37	23	.000965	95,023	92	94,977	4,938,477	51.97
24	.001568	93,008	146	92,935	4,414,078	47.46	24	.000904	94,931	86	94,889	4,843,499	51.02
25	.001890	92,862	176	92,775	4,321,143	46.53	25	.001114	94,846	106	94,793	4,748,611	50.07
26	.001442	92,687	134	92,620	4,228,368	45.62	26	.000988	94,740	94	94,693	4,653,818	49.12
27	.001389	92,553	129	92,489	4,135,748	44.69	27	.000978	94,646	93	94,600	4,559,125	48.17
28	.001696	92,425	157	92,346	4,043,259	43.75	28	.001051	94,554	99	94,504	4,464,525	47.22
29	.001409	92,268	130	92,203	3,950,913	42.82	29	.000999	94,454	94	94,407	4,370,021	46.27
30	.001681	92,138	155	92,060	3,858,710	41.88	30	.001027	94,360	97	94,312	4,275,614	45.31
31	.001346	91,983	124	91,921	3,766,649	40.95	31	.001071	94,263	101	94,213	4,181,302	44.36
32	.002026	91,859	186	91,766	3,674,728	40.00	32	.001292	94,162	122	94,101	4,087,090	43.40
33	.001864	91,673	171	91,588	3,582,962	39.08	33	.001179	94,041	111	93,985	3,992,988	42.46
34	.002010	91,502	184	91,410	3,491,374	38.16	34	.001702	93,930	160	93,850	3,899,003	41.51
35	.002179	91,318	199	91,219	3,399,964	37.23	35	.001770	93,770	166	93,687	3,805,153	40.58
36	.002460	91,119	224	91,007	3,308,745	36.31	36	.001713	93,604	160	93,524	3,711,467	39.65
37	.002514	90,895	229	90,781	3,217,737	35.40	37	.001969	93,443	184	93,351	3,617,943	38.72
38	.002739	90,667	248	90,543	3,126,956	34.49	38	.002123	93,259	198	93,160	3,524,592	37.79
39	.002793	90,418	253	90,292	3,036,413	33.58	39	.002479	93,061	231	92,946	3,431,431	36.87
40	.003212	90,166	290	90,021	2,946,121	32.67	40	.002548	92,831	237	92,712	3,338,485	35.96
41	.003621	89,876	325	89,714	2,856,100	31.78	41	.002552	92,594	236	92,476	3,245,773	35.05
42	.004154	89,551	372	89,365	2,766,386	30.89	42	.002980	92,358	275	92,220	3,153,297	34.14
43	.004217	89,179	376	88,991	2,677,022	30.02	43	.003425	92,083	315	91,925	3,061,077	33.24
44	.004446	88,803	395	88,605	2,588,031	29.14	44	.003042	91,767	279	91,628	2,969,152	32.36
45	.004977	88,408	440	88,188	2,499,425	28.27	45	.003185	91,488	291	91,342	2,877,524	31.45
46	.005194	87,968	457	87,740	2,411,237	27.41	46	.004054	91,197	370	91,012	2,786,182	30.55
47	.006267	87,511	548	87,237	2,323,498	26.55	47	.004689	90,827	426	90,614	2,695,170	29.67
48	.006600	86,963	574	86,676	2,236,261	25.72	48	.005053	90,401	457	90,173	2,604,556	28.81
49	.008767	86,389	757	86,010	2,149,585	24.88	49	.005453	89,944	490	89,699	2,514,383	27.95
50	.009207	85,631	788	85,237	2,063,575	24.10	50	.005533	89,454	495	89,206	2,424,684	27.11
51	.007493	84,843	636	84,525	1,978,338	23.32	51	.004981	88,959	443	88,737	2,335,478	26.25
52	.009576	84,207	806	83,804	1,893,813	22.49	52	.006292	88,516	557	88,237	2,246,740	25.38
53	.010092	83,401	842	82,980	1,810,009	21.70	53	.006749	87,959	594	87,662	2,158,503	24.54
54	.012070	82,559	997	82,061	1,727,029	20.92	54	.007567	87,365	661	87,035	2,070,841	23.70
55	.012586	81,563	1,027	81,049	1,644,968	20.17	55	.008115	86,704	704	86,352	1,983,806	22.88
56	.013259	80,536	1,068	80,002	1,563,919	19.42	56	.008701	86,001	748	85,626	1,897,454	22.06
57	.015285	79,468	1,215	78,861	1,483,916	18.67	57	.009087	85,252	775	84,865	1,811,828	21.25
58	.017104	78,254	1,338	77,584	1,405,056	17.96	58	.010889	84,478	920	84,018	1,726,963	20.44
59	.018184	76,915	1,399	76,216	1,327,471	17.26	59	.010487	83,558	876	83,120	1,642,945	19.66

Calendar Year 1950 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.021426	75,517	1,618	74,708	1,251,255	16.57	60	.013422	82,681	1,110	82,127	1,559,825	18.87
61	.020741	73,899	1,533	73,132	1,176,548	15.92	61	.012611	81,572	1,029	81,057	1,477,699	18.12
62	.024841	72,366	1,798	71,467	1,103,415	15.25	62	.015089	80,543	1,215	79,935	1,396,641	17.34
63	.026523	70,568	1,872	69,632	1,031,948	14.62	63	.017383	79,328	1,379	78,638	1,316,706	16.60
64	.028313	68,697	1,945	67,724	962,316	14.01	64	.019503	77,949	1,520	77,189	1,238,068	15.88
65	.032858	66,752	2,193	65,655	894,592	13.40	65	.021568	76,429	1,648	75,604	1,160,879	15.19
66	.029239	64,558	1,888	63,614	828,937	12.84	66	.022570	74,780	1,688	73,936	1,085,275	14.51
67	.034133	62,671	2,139	61,601	765,323	12.21	67	.023329	73,092	1,705	72,240	1,011,338	13.84
68	.039690	60,532	2,403	59,330	703,722	11.63	68	.027937	71,387	1,994	70,390	939,099	13.15
69	.041279	58,129	2,400	56,929	644,391	11.09	69	.030777	69,393	2,136	68,325	868,709	12.52
70	.045606	55,729	2,542	54,459	587,462	10.54	70	.033088	67,257	2,225	66,144	800,384	11.90
71	.043116	53,188	2,293	52,041	533,003	10.02	71	.030357	65,032	1,974	64,045	734,239	11.29
72	.053199	50,895	2,708	49,541	480,962	9.45	72	.040000	63,058	2,522	61,796	670,194	10.63
73	.058776	48,187	2,832	46,771	431,421	8.95	73	.047977	60,535	2,904	59,083	608,398	10.05
74	.064399	45,355	2,921	43,894	384,650	8.48	74	.050571	57,631	2,914	56,174	549,315	9.53
75	.070060	42,434	2,973	40,948	340,756	8.03	75	.055987	54,717	3,063	53,185	493,141	9.01
76	.072441	39,461	2,859	38,032	299,808	7.60	76	.063376	51,653	3,274	50,016	439,956	8.52
77	.078653	36,603	2,879	35,163	261,776	7.15	77	.063975	48,380	3,095	46,832	389,940	8.06
78	.090456	33,724	3,050	32,198	226,613	6.72	78	.076001	45,284	3,442	43,564	343,108	7.58
79	.096673	30,673	2,965	29,191	194,415	6.34	79	.083044	41,843	3,475	40,105	299,544	7.16
80	.104238	27,708	2,888	26,264	165,224	5.96	80	.086603	38,368	3,323	36,707	259,439	6.76
81	.107939	24,820	2,679	23,480	138,960	5.60	81	.086237	35,045	3,022	33,534	222,732	6.36
82	.123313	22,141	2,730	20,776	115,480	5.22	82	.103987	32,023	3,330	30,358	189,198	5.91
83	.138896	19,410	2,696	18,062	94,705	4.88	83	.111092	28,693	3,188	27,099	158,840	5.54
84	.148229	16,714	2,478	15,476	76,642	4.59	84	.124824	25,506	3,184	23,914	131,740	5.17
85	.163075	14,237	2,322	13,076	61,167	4.30	85	.139258	22,322	3,108	20,768	107,827	4.83
86	.187748	11,915	2,237	10,797	48,090	4.04	86	.154952	19,213	2,977	17,725	87,059	4.53
87	.205475	9,678	1,989	8,684	37,294	3.85	87	.171679	16,236	2,787	14,842	69,334	4.27
88	.196707	7,690	1,513	6,933	28,610	3.72	88	.185653	13,449	2,497	12,200	54,492	4.05
89	.226561	6,177	1,399	5,477	21,677	3.51	89	.179992	10,952	1,971	9,966	42,291	3.86
90	.212401	4,777	1,015	4,270	16,200	3.39	90	.221721	8,981	1,991	7,985	32,325	3.60
91	.231931	3,763	873	3,326	11,929	3.17	91	.176273	6,989	1,232	6,373	24,340	3.48
92	.237851	2,890	687	2,546	8,603	2.98	92	.239425	5,757	1,378	5,068	17,966	3.12
93	.248025	2,203	546	1,929	6,057	2.75	93	.226257	4,379	991	3,884	12,898	2.95
94	.310283	1,656	514	1,399	4,127	2.49	94	.299031	3,388	1,013	2,882	9,015	2.66
95	.315787	1,142	361	962	2,728	2.39	95	.291787	2,375	693	2,029	6,133	2.58
96	.334959	782	262	651	1,766	2.26	96	.309007	1,682	520	1,422	4,105	2.44
97	.352040	520	183	428	1,115	2.15	97	.327136	1,162	380	972	2,682	2.31
98	.369100	337	124	275	687	2.04	98	.344717	782	270	647	1,710	2.19
99	.386928	213	82	171	412	1.94	99	.362574	512	186	420	1,063	2.07
100	.405130	130	53	104	241	1.85	100	.377433	327	123	265	643	1.97
101	.421990	77	33	61	137	1.77	101	.399773	203	81	163	378	1.86
102	.439110	45	20	35	76	1.69	102	.420257	122	51	96	216	1.77
103	.454710	25	11	19	41	1.62	103	.438906	71	31	55	119	1.69
104	.469720	14	6	10	21	1.56	104	.456610	40	18	31	64	1.61
105	.484100	7	4	6	11	1.49	105	.466135	22	10	17	33	1.55
106	.497810	4	2	3	5	1.42	106	.480075	12	6	9	17	1.47
107	.510820	2	1	1	3	1.33	107	.498296	6	3	4	8	1.36
108	.523110	1	0	1	1	1.20	108	.511472	3	2	2	4	1.22
109	.534690	0	0	0	0	0.97	109	.527570	1	1	1	1	0.97
110	1.000000	0	0	0	0	0.50	110	1.000000	1	1	0	0	0.50
111	.000000	0	0	0	0	0.00	111	.000000	0	0	0	0	0.00
112	.000000	0	0	0	0	0.00	112	.000000	0	0	0	0	0.00
113	.000000	0	0	0	0	0.00	113	.000000	0	0	0	0	0.00
114	.000000	0	0	0	0	0.00	114	.000000	0	0	0	0	0.00
115	.000000	0	0	0	0	0.00	115	.000000	0	0	0	0	0.00
116	.000000	0	0	0	0	0.00	116	.000000	0	0	0	0	0.00
117	.000000	0	0	0	0	0.00	117	.000000	0	0	0	0	0.00
118	.000000	0	0	0	0	0.00	118	.000000	0	0	0	0	0.00
119	.000000	0	0	0	0	0.00	119	.000000	0	0	0	0	0.00
120	.000000	0	0	0	0	0.00	120	.000000	0	0	0	0	0.00

Calendar Year 1960

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.030158	100,000	3,016	97,587	6,854,584	68.55	0	.023175	100,000	2,317	98,146	7,454,795	74.55
1	.001800	96,984	175	96,897	6,756,997	69.67	1	.001589	97,683	155	97,605	7,356,649	75.31
2	.001136	96,810	110	96,755	6,660,100	68.80	2	.000889	97,527	87	97,484	7,259,044	74.43
3	.000870	96,700	84	96,658	6,563,345	67.87	3	.000812	97,441	79	97,401	7,161,560	73.50
4	.000817	96,616	79	96,576	6,466,687	66.93	4	.000587	97,362	57	97,333	7,064,159	72.56
5	.000810	96,537	78	96,498	6,370,111	65.99	5	.000513	97,304	50	97,279	6,966,826	71.60
6	.000637	96,459	61	96,428	6,273,614	65.04	6	.000460	97,255	45	97,232	6,869,546	70.63
7	.000575	96,397	55	96,369	6,177,186	64.08	7	.000391	97,210	38	97,191	6,772,314	69.67
8	.000578	96,342	56	96,314	6,080,816	63.12	8	.000282	97,172	27	97,158	6,675,123	68.69
9	.000437	96,286	42	96,265	5,984,503	62.15	9	.000311	97,144	30	97,129	6,577,965	67.71
10	.000433	96,244	42	96,223	5,888,238	61.18	10	.000270	97,114	26	97,101	6,480,836	66.73
11	.000510	96,202	49	96,178	5,792,015	60.21	11	.000247	97,088	24	97,076	6,383,735	65.75
12	.000560	96,153	54	96,126	5,695,837	59.24	12	.000350	97,064	34	97,047	6,286,659	64.77
13	.000671	96,099	64	96,067	5,599,711	58.27	13	.000340	97,030	33	97,013	6,189,612	63.79
14	.000756	96,035	73	95,999	5,503,644	57.31	14	.000397	96,997	39	96,978	6,092,599	62.81
15	.000820	95,962	79	95,923	5,407,645	56.35	15	.000498	96,958	48	96,934	5,995,621	61.84
16	.001026	95,884	98	95,834	5,311,723	55.40	16	.000316	96,910	31	96,895	5,898,687	60.87
17	.001417	95,785	136	95,717	5,215,888	54.45	17	.000645	96,880	62	96,848	5,801,792	59.89
18	.001396	95,649	134	95,583	5,120,171	53.53	18	.000630	96,817	61	96,787	5,704,944	58.92
19	.001746	95,516	167	95,432	5,024,588	52.60	19	.000579	96,756	56	96,728	5,608,157	57.96
20	.001692	95,349	161	95,268	4,929,156	51.70	20	.000419	96,700	40	96,680	5,511,429	57.00
21	.001879	95,188	179	95,098	4,833,888	50.78	21	.000646	96,660	62	96,628	5,414,749	56.02
22	.001525	95,009	145	94,936	4,738,789	49.88	22	.000543	96,597	52	96,571	5,318,120	55.05
23	.001459	94,864	138	94,795	4,643,853	48.95	23	.000576	96,545	56	96,517	5,221,549	54.08
24	.001466	94,726	139	94,656	4,549,058	48.02	24	.000458	96,489	44	96,467	5,125,032	53.12
25	.001525	94,587	144	94,515	4,454,402	47.09	25	.000632	96,445	61	96,414	5,028,565	52.14
26	.001607	94,442	152	94,367	4,359,887	46.16	26	.000714	96,384	69	96,350	4,932,151	51.17
27	.001467	94,291	138	94,222	4,265,521	45.24	27	.000604	96,315	58	96,286	4,835,801	50.21
28	.001355	94,152	128	94,089	4,171,299	44.30	28	.000674	96,257	65	96,225	4,739,515	49.24
29	.001474	94,025	139	93,956	4,077,210	43.36	29	.000771	96,192	74	96,155	4,643,291	48.27
30	.001756	93,886	165	93,804	3,983,255	42.43	30	.000861	96,118	83	96,077	4,547,136	47.31
31	.001544	93,721	145	93,649	3,889,451	41.50	31	.000603	96,035	58	96,006	4,451,059	46.35
32	.001562	93,577	146	93,504	3,795,802	40.56	32	.001030	95,977	99	95,928	4,355,053	45.38
33	.001401	93,431	131	93,365	3,702,298	39.63	33	.000848	95,878	81	95,838	4,259,125	44.42
34	.001648	93,300	154	93,223	3,608,933	38.68	34	.000914	95,797	88	95,753	4,163,287	43.46
35	.001771	93,146	165	93,063	3,515,710	37.74	35	.001112	95,710	106	95,656	4,067,534	42.50
36	.002148	92,981	200	92,881	3,422,647	36.81	36	.001242	95,603	119	95,544	3,971,877	41.55
37	.002175	92,781	202	92,680	3,329,765	35.89	37	.001130	95,484	108	95,430	3,876,333	40.60
38	.002505	92,580	232	92,464	3,237,085	34.97	38	.001326	95,377	126	95,313	3,780,903	39.64
39	.002830	92,348	261	92,217	3,144,621	34.05	39	.001782	95,250	170	95,165	3,685,590	38.69
40	.002765	92,086	255	91,959	3,052,405	33.15	40	.001730	95,080	164	94,998	3,590,424	37.76
41	.002709	91,832	249	91,707	2,960,446	32.24	41	.001655	94,916	157	94,837	3,495,426	36.83
42	.003224	91,583	295	91,435	2,868,738	31.32	42	.001965	94,759	186	94,666	3,400,589	35.89
43	.003622	91,288	331	91,122	2,777,303	30.42	43	.002295	94,573	217	94,464	3,305,923	34.96
44	.003721	90,957	338	90,788	2,686,181	29.53	44	.002319	94,356	219	94,246	3,211,459	34.04
45	.005060	90,619	459	90,389	2,595,393	28.64	45	.003017	94,137	284	93,995	3,117,213	33.11
46	.005193	90,160	468	89,926	2,505,004	27.78	46	.003274	93,853	307	93,699	3,023,218	32.21
47	.005849	89,692	525	89,429	2,415,078	26.93	47	.003706	93,545	347	93,372	2,929,519	31.32
48	.006045	89,167	539	88,898	2,325,648	26.08	48	.003404	93,199	317	93,040	2,836,147	30.43
49	.007091	88,628	628	88,314	2,236,751	25.24	49	.003570	92,881	332	92,716	2,743,107	29.53
50	.007297	88,000	642	87,679	2,148,437	24.41	50	.004195	92,550	388	92,356	2,650,391	28.64
51	.008008	87,358	700	87,008	2,060,758	23.59	51	.004428	92,162	408	91,958	2,558,036	27.76
52	.008897	86,658	771	86,273	1,973,750	22.78	52	.005056	91,754	464	91,522	2,466,078	26.88
53	.009833	85,887	845	85,465	1,887,478	21.98	53	.006026	91,290	550	91,015	2,374,556	26.01
54	.010719	85,042	912	84,587	1,802,013	21.19	54	.006120	90,740	555	90,462	2,283,542	25.17
55	.012953	84,131	1,090	83,586	1,717,426	20.41	55	.006316	90,184	570	89,899	2,193,080	24.32
56	.013198	83,041	1,096	82,493	1,633,840	19.68	56	.006871	89,615	616	89,307	2,103,180	23.47
57	.014860	81,945	1,218	81,336	1,551,347	18.93	57	.007788	88,999	693	88,652	2,013,874	22.63
58	.015540	80,728	1,255	80,100	1,470,011	18.21	58	.008110	88,306	716	87,948	1,925,221	21.80
59	.019362	79,473	1,539	78,704	1,389,910	17.49	59	.009837	87,590	862	87,159	1,837,274	20.98

Calendar Year 1960 (continued)

	Males						Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.020691	77,934	1,613	77,128	1,311,207	16.82	60	.011685	86,728	1,013	86,221	1,750,115	20.18
61	.019656	76,322	1,500	75,572	1,234,079	16.17	61	.009983	85,715	856	85,287	1,663,894	19.41
62	.023012	74,821	1,722	73,961	1,158,507	15.48	62	.013347	84,859	1,133	84,293	1,578,607	18.60
63	.024977	73,100	1,826	72,187	1,084,547	14.84	63	.013783	83,726	1,154	83,149	1,494,315	17.85
64	.028736	71,274	2,048	70,250	1,012,360	14.20	64	.015570	82,572	1,286	81,929	1,411,165	17.09
65	.029794	69,226	2,062	68,195	942,110	13.61	65	.015962	81,287	1,297	80,638	1,329,236	16.35
66	.030052	67,163	2,018	66,154	873,915	13.01	66	.018033	79,989	1,442	79,268	1,248,598	15.61
67	.033652	65,145	2,192	64,049	807,761	12.40	67	.021748	78,547	1,708	77,693	1,169,330	14.89
68	.038361	62,953	2,415	61,745	743,713	11.81	68	.023067	76,838	1,772	75,952	1,091,637	14.21
69	.039497	60,538	2,391	59,342	681,967	11.27	69	.024003	75,066	1,802	74,165	1,015,685	13.53
70	.044920	58,147	2,612	56,841	622,625	10.71	70	.027943	73,264	2,047	72,241	941,520	12.85
71	.046140	55,535	2,562	54,254	565,785	10.19	71	.027377	71,217	1,950	70,242	869,279	12.21
72	.053854	52,972	2,853	51,546	511,531	9.66	72	.034132	69,267	2,364	68,085	799,037	11.54
73	.054727	50,120	2,743	48,748	459,985	9.18	73	.035969	66,903	2,406	65,700	730,952	10.93
74	.065005	47,377	3,080	45,837	411,237	8.68	74	.041965	64,497	2,707	63,143	665,252	10.31
75	.069222	44,297	3,066	42,764	365,400	8.25	75	.048369	61,790	2,989	60,296	602,109	9.74
76	.072654	41,231	2,996	39,733	322,637	7.83	76	.052757	58,801	3,102	57,250	541,813	9.21
77	.079933	38,235	3,056	36,707	282,904	7.40	77	.058635	55,699	3,266	54,066	484,563	8.70
78	.086235	35,179	3,034	33,662	246,197	7.00	78	.064790	52,433	3,397	50,735	430,496	8.21
79	.095562	32,145	3,072	30,609	212,535	6.61	79	.073162	49,036	3,588	47,242	379,762	7.74
80	.101595	29,073	2,954	27,596	181,926	6.26	80	.070666	45,449	3,212	43,843	332,519	7.32
81	.105942	26,120	2,767	24,736	154,329	5.91	81	.077446	42,237	3,271	40,601	288,677	6.83
82	.118702	23,352	2,772	21,966	129,593	5.55	82	.093907	38,966	3,659	37,136	248,076	6.37
83	.124932	20,580	2,571	19,295	107,627	5.23	83	.104231	35,307	3,680	33,467	210,939	5.97
84	.133886	18,009	2,411	16,804	88,332	4.90	84	.113120	31,627	3,578	29,838	177,473	5.61
85	.147090	15,598	2,294	14,451	71,528	4.59	85	.121604	28,049	3,411	26,344	147,635	5.26
86	.169849	13,304	2,260	12,174	57,077	4.29	86	.137414	24,638	3,386	22,945	121,292	4.92
87	.177268	11,044	1,958	10,065	44,903	4.07	87	.145157	21,252	3,085	19,710	98,346	4.63
88	.192122	9,086	1,746	8,214	34,838	3.83	88	.163579	18,168	2,972	16,682	78,636	4.33
89	.194270	7,341	1,426	6,628	26,624	3.63	89	.178910	15,196	2,719	13,836	61,955	4.08
90	.225520	5,915	1,334	5,248	19,997	3.38	90	.186428	12,477	2,326	11,314	48,118	3.86
91	.226734	4,581	1,039	4,061	14,749	3.22	91	.184968	10,151	1,878	9,212	36,804	3.63
92	.235634	3,542	835	3,125	10,688	3.02	92	.217772	8,273	1,802	7,373	27,592	3.34
93	.286970	2,707	777	2,319	7,563	2.79	93	.220035	6,472	1,424	5,760	20,220	3.12
94	.282740	1,931	546	1,658	5,244	2.72	94	.263917	5,048	1,332	4,382	14,460	2.86
95	.291801	1,385	404	1,183	3,586	2.59	95	.274833	3,715	1,021	3,205	10,078	2.71
96	.308919	981	303	829	2,403	2.45	96	.293542	2,694	791	2,299	6,873	2.55
97	.326872	678	222	567	1,574	2.32	97	.312560	1,903	595	1,606	4,575	2.40
98	.342509	456	156	378	1,007	2.21	98	.331710	1,309	434	1,091	2,969	2.27
99	.359371	300	108	246	629	2.10	99	.350777	874	307	721	1,877	2.15
100	.377539	192	73	156	383	1.99	100	.369794	568	210	463	1,156	2.04
101	.395520	120	47	96	227	1.90	101	.388373	358	139	288	693	1.94
102	.412653	72	30	57	131	1.82	102	.406717	219	89	174	405	1.85
103	.426863	42	18	33	74	1.74	103	.424962	130	55	102	231	1.78
104	.440257	24	11	19	41	1.67	104	.442293	75	33	58	128	1.72
105	.459260	14	6	10	22	1.59	105	.458600	42	19	32	70	1.69
106	.473470	7	3	6	11	1.51	106	.474728	23	11	17	38	1.69
107	.475540	4	2	3	6	1.43	107	.489659	12	6	9	21	1.77
108	.485838	2	1	2	3	1.26	108	.000000	6	0	6	12	1.98
109	.512420	1	1	1	1	0.99	109	.518010	6	3	4	6	0.98
110	1.000000	1	1	0	0	0.50	110	1.000000	3	3	1	1	0.50
111	.000000	0	0	0	0	0.00	111	.000000	0	0	0	0	0.00
112	.000000	0	0	0	0	0.00	112	.000000	0	0	0	0	0.00
113	.000000	0	0	0	0	0.00	113	.000000	0	0	0	0	0.00
114	.000000	0	0	0	0	0.00	114	.000000	0	0	0	0	0.00
115	.000000	0	0	0	0	0.00	115	.000000	0	0	0	0	0.00
116	.000000	0	0	0	0	0.00	116	.000000	0	0	0	0	0.00
117	.000000	0	0	0	0	0.00	117	.000000	0	0	0	0	0.00
118	.000000	0	0	0	0	0.00	118	.000000	0	0	0	0	0.00
119	.000000	0	0	0	0	0.00	119	.000000	0	0	0	0	0.00
120	.000000	0	0	0	0	0.00	120	.000000	0	0	0	0	0.00

Calendar Year 1970

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.020052	100,000	2,005	98,396	6,988,808	69.89	0	.015455	100,000	1,546	98,764	7,664,501	76.65
1	.001297	97,995	127	97,931	6,890,412	70.31	1	.001172	98,454	115	98,397	7,565,737	76.85
2	.000926	97,868	91	97,822	6,792,480	69.40	2	.000764	98,339	75	98,302	7,467,341	75.93
3	.000771	97,777	75	97,739	6,694,658	68.47	3	.000581	98,264	57	98,235	7,369,039	74.99
4	.000668	97,702	65	97,669	6,596,918	67.52	4	.000527	98,207	52	98,181	7,270,804	74.04
5	.000579	97,636	56	97,608	6,499,249	66.57	5	.000458	98,155	45	98,133	7,172,623	73.07
6	.000492	97,580	48	97,556	6,401,641	65.60	6	.000381	98,110	37	98,092	7,074,490	72.11
7	.000422	97,532	41	97,511	6,304,085	64.64	7	.000319	98,073	31	98,057	6,976,398	71.13
8	.000375	97,491	37	97,473	6,206,574	63.66	8	.000286	98,042	28	98,028	6,878,341	70.16
9	.000354	97,454	34	97,437	6,109,101	62.69	9	.000269	98,014	26	98,000	6,780,314	69.18
10	.000367	97,420	36	97,402	6,011,664	61.71	10	.000268	97,987	26	97,974	6,682,313	68.20
11	.000392	97,384	38	97,365	5,914,262	60.73	11	.000271	97,961	27	97,948	6,584,339	67.21
12	.000460	97,346	45	97,324	5,816,897	59.75	12	.000298	97,934	29	97,920	6,486,392	66.23
13	.000599	97,301	58	97,272	5,719,573	58.78	13	.000331	97,905	32	97,889	6,388,472	65.25
14	.000796	97,243	77	97,204	5,622,301	57.82	14	.000382	97,873	37	97,854	6,290,583	64.27
15	.001010	97,166	98	97,116	5,525,097	56.86	15	.000435	97,835	43	97,814	6,192,729	63.30
16	.001220	97,067	118	97,008	5,427,981	55.92	16	.000486	97,793	48	97,769	6,094,915	62.32
17	.001386	96,949	134	96,882	5,330,972	54.99	17	.000522	97,745	51	97,720	5,997,146	61.35
18	.001510	96,815	146	96,742	5,234,091	54.06	18	.000536	97,694	52	97,668	5,899,426	60.39
19	.001616	96,668	156	96,590	5,137,349	53.14	19	.000536	97,642	52	97,616	5,801,758	59.42
20	.001628	96,512	157	96,434	5,040,759	52.23	20	.000516	97,589	50	97,564	5,704,143	58.45
21	.001681	96,355	162	96,274	4,944,325	51.31	21	.000511	97,539	50	97,514	5,606,578	57.48
22	.001703	96,193	164	96,111	4,848,051	50.40	22	.000513	97,489	50	97,464	5,509,064	56.51
23	.001677	96,029	161	95,949	4,751,940	49.48	23	.000521	97,439	51	97,414	5,411,600	55.54
24	.001606	95,868	154	95,791	4,655,991	48.57	24	.000530	97,389	52	97,363	5,314,186	54.57
25	.001557	95,714	149	95,640	4,560,200	47.64	25	.000559	97,337	54	97,310	5,216,823	53.60
26	.001474	95,565	141	95,495	4,464,560	46.72	26	.000579	97,283	56	97,254	5,119,513	52.63
27	.001426	95,424	136	95,356	4,369,065	45.79	27	.000607	97,226	59	97,197	5,022,259	51.66
28	.001412	95,288	135	95,221	4,273,709	44.85	28	.000646	97,167	63	97,136	4,925,062	50.69
29	.001416	95,154	135	95,087	4,178,488	43.91	29	.000691	97,104	67	97,071	4,827,926	49.72
30	.001436	95,019	136	94,951	4,083,401	42.97	30	.000743	97,037	72	97,001	4,730,855	48.75
31	.001474	94,883	140	94,813	3,988,450	42.04	31	.000801	96,965	78	96,926	4,633,854	47.79
32	.001528	94,743	145	94,671	3,893,637	41.10	32	.000864	96,888	84	96,846	4,536,928	46.83
33	.001596	94,598	151	94,523	3,798,967	40.16	33	.000930	96,804	90	96,759	4,440,082	45.87
34	.001675	94,447	158	94,368	3,704,444	39.22	34	.001000	96,714	97	96,665	4,343,323	44.91
35	.001800	94,289	170	94,204	3,610,076	38.29	35	.001091	96,617	105	96,564	4,246,658	43.95
36	.001929	94,119	182	94,028	3,515,872	37.36	36	.001180	96,512	114	96,455	4,150,093	43.00
37	.002094	93,938	197	93,839	3,421,843	36.43	37	.001286	96,398	124	96,336	4,053,638	42.05
38	.002297	93,741	215	93,633	3,328,004	35.50	38	.001410	96,274	136	96,206	3,957,303	41.10
39	.002532	93,526	237	93,407	3,234,371	34.58	39	.001547	96,138	149	96,064	3,861,097	40.16
40	.002797	93,289	261	93,158	3,140,963	33.67	40	.001698	95,989	163	95,908	3,765,033	39.22
41	.003088	93,028	287	92,884	3,047,805	32.76	41	.001861	95,826	178	95,737	3,669,125	38.29
42	.003404	92,741	316	92,583	2,954,921	31.86	42	.002034	95,648	195	95,551	3,573,388	37.36
43	.003730	92,425	345	92,253	2,862,338	30.97	43	.002212	95,454	211	95,348	3,477,837	36.43
44	.004068	92,080	375	91,893	2,770,085	30.08	44	.002396	95,242	228	95,128	3,382,489	35.51
45	.004471	91,706	410	91,501	2,678,192	29.20	45	.002591	95,014	246	94,891	3,287,361	34.60
46	.004898	91,296	447	91,072	2,586,692	28.33	46	.002811	94,768	266	94,635	3,192,469	33.69
47	.005400	90,848	491	90,603	2,495,619	27.47	47	.003060	94,502	289	94,357	3,097,835	32.78
48	.005977	90,358	540	90,088	2,405,016	26.62	48	.003338	94,213	314	94,055	3,003,478	31.88
49	.006616	89,818	594	89,521	2,314,928	25.77	49	.003639	93,898	342	93,727	2,909,422	30.98
50	.007315	89,224	653	88,897	2,225,407	24.94	50	.003966	93,556	371	93,371	2,815,695	30.10
51	.008072	88,571	715	88,214	2,136,510	24.12	51	.004319	93,185	402	92,984	2,722,324	29.21
52	.008884	87,856	781	87,466	2,048,297	23.31	52	.004704	92,783	436	92,565	2,629,340	28.34
53	.009721	87,076	846	86,652	1,960,831	22.52	53	.005109	92,346	472	92,110	2,536,776	27.47
54	.010582	86,229	912	85,773	1,874,178	21.73	54	.005535	91,875	509	91,620	2,444,665	26.61
55	.011559	85,317	986	84,824	1,788,406	20.96	55	.006006	91,366	549	91,092	2,353,045	25.75
56	.012612	84,330	1,064	83,799	1,703,582	20.20	56	.006512	90,817	591	90,522	2,261,953	24.91
57	.013830	83,267	1,152	82,691	1,619,783	19.45	57	.007073	90,226	638	89,907	2,171,431	24.07
58	.015205	82,115	1,249	81,491	1,537,092	18.72	58	.007669	89,588	687	89,244	2,081,525	23.23
59	.016711	80,867	1,351	80,191	1,455,601	18.00	59	.008293	88,901	737	88,532	1,992,280	22.41

Calendar Year 1970 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.018346	79,515	1,459	78,786	1,375,410	17.30	60	.008975	88,163	791	87,768	1,903,748	21.59
61	.020116	78,057	1,570	77,271	1,296,624	16.61	61	.009753	87,372	852	86,946	1,815,980	20.78
62	.022029	76,486	1,685	75,644	1,219,353	15.94	62	.010669	86,520	923	86,058	1,729,034	19.98
63	.024049	74,801	1,799	73,902	1,143,709	15.29	63	.011687	85,597	1,000	85,097	1,642,976	19.19
64	.026185	73,003	1,912	72,047	1,069,807	14.65	64	.012789	84,597	1,082	84,056	1,557,879	18.42
65	.028276	71,091	2,010	70,086	997,760	14.03	65	.014002	83,515	1,169	82,930	1,473,824	17.65
66	.030718	69,081	2,122	68,020	927,674	13.43	66	.015389	82,345	1,267	81,712	1,390,894	16.89
67	.033383	66,959	2,235	65,841	859,655	12.84	67	.016976	81,078	1,376	80,390	1,309,182	16.15
68	.036220	64,723	2,344	63,551	793,813	12.26	68	.018714	79,702	1,492	78,956	1,228,792	15.42
69	.039215	62,379	2,446	61,156	730,262	11.71	69	.020583	78,210	1,610	77,405	1,149,836	14.70
70	.042445	59,933	2,544	58,661	669,106	11.16	70	.022648	76,600	1,735	75,733	1,072,431	14.00
71	.045948	57,389	2,637	56,071	610,445	10.64	71	.025002	74,866	1,872	73,930	996,698	13.31
72	.049731	54,752	2,723	53,391	554,374	10.13	72	.027708	72,994	2,023	71,983	922,768	12.64
73	.053841	52,029	2,801	50,629	500,984	9.63	73	.030729	70,971	2,181	69,881	850,786	11.99
74	.058219	49,228	2,866	47,795	450,355	9.15	74	.033945	68,790	2,335	67,623	780,905	11.35
75	.062919	46,362	2,917	44,903	402,560	8.68	75	.037481	66,455	2,491	65,210	713,282	10.73
76	.068099	43,445	2,959	41,966	357,656	8.23	76	.041534	63,964	2,657	62,636	648,072	10.13
77	.073825	40,486	2,989	38,992	315,691	7.80	77	.046202	61,308	2,833	59,891	585,436	9.55
78	.080024	37,497	3,001	35,997	276,699	7.38	78	.051427	58,475	3,007	56,972	525,545	8.99
79	.086610	34,497	2,988	33,003	240,702	6.98	79	.057209	55,468	3,173	53,881	468,573	8.45
80	.093645	31,509	2,951	30,034	207,699	6.59	80	.063464	52,295	3,319	50,635	414,692	7.93
81	.101453	28,558	2,897	27,110	177,665	6.22	81	.070426	48,976	3,449	47,251	364,056	7.43
82	.109722	25,661	2,816	24,253	150,555	5.87	82	.078265	45,527	3,563	43,745	316,805	6.96
83	.118688	22,845	2,711	21,490	126,302	5.53	83	.086981	41,964	3,650	40,139	273,060	6.51
84	.128382	20,134	2,585	18,842	104,813	5.21	84	.096158	38,314	3,684	36,471	232,921	6.08
85	.138495	17,549	2,430	16,334	85,971	4.90	85	.106342	34,629	3,683	32,788	196,450	5.67
86	.149516	15,119	2,260	13,988	69,637	4.61	86	.117451	30,947	3,635	29,129	163,661	5.29
87	.161419	12,858	2,076	11,820	55,649	4.33	87	.129636	27,312	3,541	25,542	134,532	4.93
88	.173992	10,783	1,876	9,845	43,828	4.06	88	.142635	23,771	3,391	22,076	108,990	4.58
89	.187345	8,907	1,669	8,072	33,984	3.82	89	.156757	20,381	3,195	18,783	86,914	4.26
90	.201337	7,238	1,457	6,509	25,911	3.58	90	.171680	17,186	2,950	15,711	68,131	3.96
91	.216321	5,781	1,250	5,155	19,402	3.36	91	.187731	14,236	2,672	12,899	52,420	3.68
92	.232306	4,530	1,052	4,004	14,247	3.14	92	.205060	11,563	2,371	10,377	39,521	3.42
93	.249228	3,478	867	3,044	10,243	2.95	93	.223578	9,192	2,055	8,164	29,143	3.17
94	.267026	2,611	697	2,262	7,198	2.76	94	.243199	7,137	1,736	6,269	20,979	2.94
95	.285793	1,914	547	1,640	4,936	2.58	95	.264054	5,401	1,426	4,688	14,710	2.72
96	.305623	1,367	418	1,158	3,296	2.41	96	.286273	3,975	1,138	3,406	10,022	2.52
97	.326613	949	310	794	2,138	2.25	97	.309987	2,837	879	2,397	6,616	2.33
98	.348698	639	223	528	1,343	2.10	98	.335111	1,958	656	1,630	4,218	2.15
99	.371816	416	155	339	816	1.96	99	.361555	1,302	471	1,066	2,589	1.99
100	.396064	261	104	210	477	1.82	100	.389451	831	324	669	1,522	1.83
101	.421534	158	67	125	267	1.69	101	.418930	507	213	401	853	1.68
102	.448323	91	41	71	143	1.56	102	.450123	295	133	228	452	1.53
103	.476368	50	24	38	72	1.42	103	.482943	162	78	123	224	1.38
104	.505609	26	13	20	33	1.26	104	.517303	84	43	62	101	1.20
105	.536139	13	7	10	14	1.04	105	.553333	40	22	29	39	0.95
106	.862823	6	5	3	4	0.66	106	.981887	18	18	9	9	0.52
107	.871672	1	1	0	1	0.64	107	.981614	0	0	0	0	0.52
108	.880484	0	0	0	0	0.62	108	.989570	0	0	0	0	0.51
109	1.000000	0	0	0	0	0.50	109	1.000000	0	0	0	0	0.50
110	1.000000	0	0	0	0	0.00	110	1.000000	0	0	0	0	0.00
111	1.000000	0	0	0	0	0.00	111	1.000000	0	0	0	0	0.00
112	1.000000	0	0	0	0	0.00	112	1.000000	0	0	0	0	0.00
113	1.000000	0	0	0	0	0.00	113	1.000000	0	0	0	0	0.00
114	1.000000	0	0	0	0	0.00	114	1.000000	0	0	0	0	0.00
115	1.000000	0	0	0	0	0.00	115	1.000000	0	0	0	0	0.00
116	1.000000	0	0	0	0	0.00	116	1.000000	0	0	0	0	0.00
117	1.000000	0	0	0	0	0.00	117	1.000000	0	0	0	0	0.00
118	1.000000	0	0	0	0	0.00	118	1.000000	0	0	0	0	0.00
119	1.000000	0	0	0	0	0.00	119	1.000000	0	0	0	0	0.00
120	1.000000	0	0	0	0	0.00	120	1.000000	0	0	0	0	0.00

Calendar Year 1980

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.011774	100,000	1,177	99,058	7,204,153	72.04	0	.009033	100,000	903	99,277	7,889,158	78.89
1	.000835	98,823	83	98,781	7,105,095	71.90	1	.000709	99,097	70	99,062	7,789,880	78.61
2	.000656	98,740	65	98,708	7,006,314	70.96	2	.000496	99,026	49	99,002	7,690,819	77.66
3	.000509	98,675	50	98,650	6,907,606	70.00	3	.000411	98,977	41	98,957	7,591,817	76.70
4	.000479	98,625	47	98,601	6,808,956	69.04	4	.000326	98,937	32	98,921	7,492,860	75.73
5	.000396	98,578	39	98,558	6,710,354	68.07	5	.000268	98,904	26	98,891	7,393,939	74.76
6	.000297	98,539	29	98,524	6,611,796	67.10	6	.000229	98,878	23	98,867	7,295,048	73.78
7	.000214	98,510	21	98,499	6,513,272	66.12	7	.000204	98,855	20	98,845	7,196,181	72.80
8	.000186	98,488	18	98,479	6,414,773	65.13	8	.000184	98,835	18	98,826	7,097,336	71.81
9	.000187	98,470	18	98,461	6,316,293	64.14	9	.000176	98,817	17	98,808	6,998,510	70.82
10	.000219	98,452	22	98,441	6,217,832	63.16	10	.000181	98,799	18	98,790	6,899,702	69.84
11	.000263	98,430	26	98,417	6,119,392	62.17	11	.000189	98,782	19	98,772	6,800,912	68.85
12	.000346	98,404	34	98,387	6,020,974	61.19	12	.000217	98,763	21	98,752	6,702,139	67.86
13	.000497	98,370	49	98,346	5,922,587	60.21	13	.000256	98,741	25	98,729	6,603,387	66.88
14	.000709	98,321	70	98,286	5,824,241	59.24	14	.000310	98,716	31	98,701	6,504,658	65.89
15	.000927	98,252	91	98,206	5,725,955	58.28	15	.000367	98,686	36	98,668	6,405,958	64.91
16	.001141	98,161	112	98,105	5,627,749	57.33	16	.000422	98,649	42	98,629	6,307,290	63.94
17	.001303	98,049	128	97,985	5,529,644	56.40	17	.000460	98,608	45	98,585	6,208,661	62.96
18	.001412	97,921	138	97,852	5,431,660	55.47	18	.000478	98,562	47	98,539	6,110,076	61.99
19	.001493	97,783	146	97,710	5,333,808	54.55	19	.000483	98,515	48	98,492	6,011,537	61.02
20	.001495	97,637	146	97,564	5,236,098	53.63	20	.000470	98,468	46	98,445	5,913,046	60.05
21	.001527	97,491	149	97,416	5,138,535	52.71	21	.000464	98,422	46	98,399	5,814,601	59.08
22	.001540	97,342	150	97,267	5,041,118	51.79	22	.000466	98,376	46	98,353	5,716,202	58.11
23	.001522	97,192	148	97,118	4,943,852	50.87	23	.000470	98,330	46	98,307	5,617,849	57.13
24	.001474	97,044	143	96,972	4,846,734	49.94	24	.000476	98,284	47	98,260	5,519,542	56.16
25	.001456	96,901	141	96,830	4,749,761	49.02	25	.000498	98,237	49	98,213	5,421,282	55.19
26	.001393	96,760	135	96,692	4,652,931	48.09	26	.000506	98,188	50	98,163	5,323,069	54.21
27	.001348	96,625	130	96,560	4,556,238	47.15	27	.000519	98,139	51	98,113	5,224,906	53.24
28	.001316	96,495	127	96,431	4,459,678	46.22	28	.000536	98,088	53	98,061	5,126,793	52.27
29	.001288	96,368	124	96,306	4,363,247	45.28	29	.000554	98,035	54	98,008	5,028,732	51.30
30	.001268	96,24	122	96,183	4,266,941	44.33	30	.000576	97,981	56	97,952	4,930,724	50.32
31	.001268	96,122	122	96,061	4,170,758	43.39	31	.000607	97,924	59	97,895	4,832,771	49.35
32	.001292	96,000	124	95,938	4,074,697	42.44	32	.000651	97,865	64	97,833	4,734,877	48.38
33	.001337	95,876	128	95,812	3,978,759	41.50	33	.000704	97,801	69	97,767	4,637,044	47.41
34	.001395	95,748	134	95,681	3,882,948	40.55	34	.000770	97,732	75	97,695	4,539,277	46.45
35	.001471	95,614	141	95,544	3,787,267	39.61	35	.000856	97,657	84	97,615	4,441,582	45.48
36	.001578	95,474	151	95,398	3,691,723	38.67	36	.000940	97,574	92	97,528	4,343,967	44.52
37	.001703	95,323	162	95,242	3,596,325	37.73	37	.001032	97,482	101	97,432	4,246,439	43.56
38	.001845	95,161	176	95,073	3,501,083	36.79	38	.001133	97,381	110	97,326	4,149,008	42.61
39	.002005	94,985	190	94,890	3,406,010	35.86	39	.001239	97,271	121	97,211	4,051,682	41.65
40	.002188	94,795	207	94,691	3,311,120	34.93	40	.001355	97,150	132	97,085	3,954,471	40.70
41	.002402	94,587	227	94,474	3,216,429	34.00	41	.001487	97,019	144	96,947	3,857,387	39.76
42	.002660	94,360	251	94,234	3,121,956	33.09	42	.001635	96,874	158	96,795	3,760,440	38.82
43	.002951	94,109	278	93,970	3,027,721	32.17	43	.001799	96,716	174	96,629	3,663,645	37.88
44	.003274	93,831	307	93,678	2,933,751	31.27	44	.001975	96,542	191	96,447	3,567,016	36.95
45	.003706	93,524	347	93,351	2,840,074	30.37	45	.002176	96,351	210	96,247	3,470,569	36.02
46	.0074116	93,177	383	92,986	2,746,723	29.48	46	.002388	96,142	230	96,027	3,374,322	35.10
47	.004567	92,794	424	92,582	2,653,737	28.60	47	.002619	95,912	251	95,787	3,278,295	34.18
48	.005054	92,370	467	92,137	2,561,155	27.73	48	.002872	95,661	275	95,524	3,182,509	33.27
49	.005582	91,903	513	91,647	2,469,019	26.87	49	.003139	95,386	299	95,237	3,086,985	32.36
50	.006153	91,390	562	91,109	2,377,372	26.01	50	.003429	95,087	326	94,924	2,991,749	31.46
51	.006787	90,828	616	90,520	2,286,263	25.17	51	.003744	94,761	355	94,583	2,896,825	30.57
52	.007497	90,211	676	89,873	2,195,743	24.34	52	.004092	94,406	386	94,213	2,802,242	29.68
53	.008285	89,535	742	89,164	2,105,870	23.52	53	.004465	94,020	420	93,810	2,708,029	28.80
54	.009129	88,793	811	88,388	2,016,705	22.71	54	.004864	93,600	455	93,372	2,614,219	27.93
55	.010072	87,983	886	87,540	1,928,317	21.92	55	.005273	93,145	491	92,899	2,520,847	27.06
56	.011079	87,097	965	86,614	1,840,778	21.13	56	.005741	92,653	532	92,387	2,427,948	26.20
57	.012168	86,132	1,048	85,608	1,754,164	20.37	57	.006251	92,122	576	91,834	2,335,560	25.35
58	.013323	85,084	1,134	84,517	1,668,556	19.61	58	.006793	91,546	622	91,235	2,243,727	24.51
59	.014546	83,950	1,221	83,339	1,584,039	18.87	59	.007353	90,924	669	90,590	2,152,492	23.67

Calendar Year 1980 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.015867	82,729	1,313	82,072	1,500,700	18.14	60	.007968	90,255	719	89,896	2,061,903	22.85
61	.017285	81,416	1,407	80,713	1,418,627	17.42	61	.008653	89,536	775	89,149	1,972,007	22.02
62	.018880	80,009	1,511	79,254	1,337,915	16.72	62	.009447	88,761	839	88,342	1,882,858	21.21
63	.020704	78,498	1,625	77,686	1,258,661	16.03	63	.010345	87,923	910	87,468	1,794,516	20.41
64	.022645	76,873	1,741	76,003	1,180,976	15.36	64	.011309	87,013	984	86,521	1,707,048	19.62
65	.024784	75,132	1,862	74,201	1,104,973	14.71	65	.012396	86,029	1,066	85,496	1,620,527	18.84
66	.027055	73,270	1,982	72,279	1,030,771	14.07	66	.013592	84,963	1,155	84,385	1,535,031	18.07
67	.029547	71,288	2,106	70,235	958,492	13.45	67	.014937	83,808	1,252	83,182	1,450,646	17.31
68	.032212	69,182	2,228	68,067	888,257	12.84	68	.016392	82,556	1,353	81,880	1,367,463	16.56
69	.035009	66,953	2,344	65,781	820,190	12.25	69	.017941	81,203	1,457	80,475	1,285,584	15.83
70	.038043	64,609	2,458	63,380	754,409	11.68	70	.019645	79,746	1,567	78,963	1,205,109	15.11
71	.041404	62,151	2,573	60,865	691,028	11.12	71	.021596	78,179	1,688	77,335	1,126,147	14.40
72	.045107	59,578	2,687	58,234	630,164	10.58	72	.023834	76,491	1,823	75,580	1,048,811	13.71
73	.049091	56,891	2,793	55,494	571,929	10.05	73	.026260	74,668	1,961	73,688	973,232	13.03
74	.053403	54,098	2,889	52,653	516,435	9.55	74	.028871	72,707	2,099	71,658	899,544	12.37
75	.058081	51,209	2,974	49,722	463,782	9.06	75	.031780	70,608	2,244	69,486	827,887	11.73
76	.063193	48,235	3,048	46,711	414,060	8.58	76	.035110	68,364	2,400	67,164	758,400	11.09
77	.068753	45,187	3,107	43,633	367,350	8.13	77	.039035	65,964	2,575	64,676	691,236	10.48
78	.074818	42,080	3,148	40,506	323,716	7.69	78	.043447	63,389	2,754	62,012	626,560	9.88
79	.081270	38,932	3,164	37,350	283,211	7.27	79	.048244	60,635	2,925	59,172	564,548	9.31
80	.088220	35,768	3,155	34,190	245,861	6.87	80	.053562	57,710	3,091	56,164	505,376	8.76
81	.095579	32,612	3,117	31,054	211,671	6.49	81	.059592	54,619	3,255	52,991	449,212	8.22
82	.103679	29,495	3,058	27,966	180,618	6.12	82	.066388	51,364	3,410	49,659	396,220	7.71
83	.112371	26,437	2,971	24,952	152,652	5.77	83	.073923	47,954	3,545	46,181	346,562	7.23
84	.121672	23,466	2,8..	22,039	127,700	5.44	84	.082063	44,409	3,644	42,587	300,380	6.76
85	.131497	20,611	2,710	19,256	105,661	5.13	85	.090996	40,765	3,709	38,910	257,793	6.32
86	.142097	17,901	2,544	16,629	86,405	4.83	86	.100788	37,055	3,735	35,188	218,884	5.91
87	.153433	15,357	2,356	14,179	69,776	4.54	87	.111606	33,320	3,719	31,461	183,696	5.51
88	.165490	13,001	2,152	11,925	55,597	4.28	88	.123385	29,602	3,652	27,776	152,235	5.14
89	.178178	10,849	1,933	9,883	43,672	4.03	89	.136008	25,949	3,529	24,185	124,459	4.80
90	.191637	8,916	1,709	8,062	33,790	3.79	90	.149617	22,420	3,354	20,743	100,274	4.47
91	.205840	7,208	1,484	6,466	25,728	3.57	91	.164282	19,066	3,132	17,500	79,532	4.17
92	.220937	5,724	1,265	5,092	19,262	3.37	92	.180202	15,933	2,871	14,498	62,032	3.89
93	.236488	4,459	1,055	3,932	14,170	3.18	93	.197286	13,062	2,577	11,774	47,534	3.64
94	.253609	3,405	863	2,973	10,238	3.01	94	.215441	10,485	2,259	9,356	35,760	3.41
95	.271207	2,541	689	2,197	7,265	2.86	95	.234807	8,226	1,932	7,260	26,405	3.21
96	.289753	1,852	537	1,584	5,069	2.74	96	.255521	6,295	1,608	5,490	19,144	3.04
97	.309420	1,315	407	1,112	3,485	2.65	97	.277714	4,686	1,301	4,036	13,654	2.91
98	.306494	908	278	769	2,373	2.61	98	.276396	3,385	936	2,917	9,618	2.84
99	.290077	630	183	539	1,604	2.55	99	.261523	2,449	641	2,129	6,701	2.74
100	.277604	447	124	385	1,065	2.38	100	.250833	1,809	454	1,582	4,572	2.53
101	.285536	323	92	277	680	2.10	101	.261044	1,355	354	1,178	2,990	2.21
102	.329991	231	76	193	403	1.75	102	.308579	1,001	309	847	1,812	1.81
103	.437903	155	68	121	210	1.36	103	.421536	692	292	546	965	1.39
104	.586563	87	51	61	89	1.03	104	.575777	400	231	285	419	1.05
105	.747437	36	27	23	28	0.78	105	.742052	170	126	107	134	0.79
106	.891288	9	8	5	6	0.61	106	.890057	44	39	24	27	0.61
107	.990582	1	1	0	1	0.51	107	.992963	5	5	2	2	0.51
108	.990582	0	0	0	0	0.51	108	.992963	0	0	0	0	0.51
109	1.000000	0	0	0	0	0.50	109	1.000000	0	0	0	0	0.50
110	1.000000	0	0	0	0	0.00	110	1.000000	0	0	0	0	0.00
111	1.000000	0	0	0	0	0.00	111	1.000000	0	0	0	0	0.00
112	1.000000	0	0	0	0	0.00	112	1.000000	0	0	0	0	0.00
113	1.000000	0	0	0	0	0.00	113	1.000000	0	0	0	0	0.00
114	1.000000	0	0	0	0	0.00	114	1.000000	0	0	0	0	0.00
115	1.000000	0	0	0	0	0.00	115	1.000000	0	0	0	0	0.00
116	1.000000	0	0	0	0	0.00	116	1.000000	0	0	0	0	0.00
117	1.000000	0	0	0	0	0.00	117	1.000000	0	0	0	0	0.00
118	1.000000	0	0	0	0	0.00	118	1.000000	0	0	0	0	0.00
119	1.000000	0	0	0	0	0.00	119	1.000000	0	0	0	0	0.00
120	1.000000	0	0	0	0	0.00	120	1.000000	0	0	0	0	0.00

Calendar Year 1990

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.007494	100,000	749	99,400	7,462,903	74.63	0	.006110	100,000	611	99,511	8,077,158	80.77
1	.000549	99,251	54	99,223	7,363,503	74.19	1	.000489	99,389	49	99,365	7,977,647	80.27
2	.000424	99,196	42	99,175	7,264,279	73.23	2	.000317	99,340	31	99,325	7,878,283	79.31
3	.000361	99,154	36	99,136	7,165,104	72.26	3	.000244	99,309	24	99,297	7,778,958	78.33
4	.000276	99,118	27	99,105	7,065,968	71.29	4	.000189	99,285	19	99,275	7,679,661	77.35
5	.000220	99,091	22	99,080	6,966,864	70.31	5	.000146	99,266	14	99,259	7,580,386	76.36
6	.000179	99,069	18	99,060	6,867,783	69.32	6	.000131	99,251	13	99,245	7,481,127	75.38
7	.000147	99,051	15	99,044	6,768,723	68.34	7	.000119	99,239	12	99,233	7,381,882	74.39
8	.000124	99,037	12	99,031	6,669,679	67.35	8	.000107	99,227	11	99,221	7,282,650	73.39
9	.000124	99,025	12	99,018	6,570,648	66.35	9	.000108	99,216	11	99,211	7,183,428	72.40
10	.000141	99,012	14	99,005	6,471,630	65.36	10	.000119	99,205	12	99,199	7,084,218	71.41
11	.000146	98,998	14	98,991	6,372,624	64.37	11	.000124	99,193	12	99,187	6,985,018	70.42
12	.000222	98,984	22	98,973	6,273,633	63.38	12	.000167	99,181	17	99,173	6,885,831	69.43
13	.000334	98,962	33	98,945	6,174,660	62.39	13	.000199	99,165	20	99,155	6,786,658	68.44
14	.000483	98,929	48	98,905	6,075,715	61.41	14	.000246	99,145	24	99,133	6,687,503	67.45
15	.000656	98,881	65	98,849	5,976,810	60.44	15	.000301	99,120	30	99,105	6,588,371	66.47
16	.000811	98,816	80	98,776	5,877,961	59.48	16	.000348	99,091	34	99,073	6,489,265	65.49
17	.000923	98,736	91	98,691	5,779,185	58.53	17	.000377	99,056	37	99,037	6,390,192	64.51
18	.001006	98,645	99	98,595	5,680,495	57.59	18	.000395	99,019	39	98,999	6,291,154	63.53
19	.001068	98,546	105	98,493	5,581,899	56.64	19	.000389	98,980	39	98,960	6,192,155	62.56
20	.001090	98,440	107	98,387	5,483,406	55.70	20	.000371	98,941	37	98,923	6,093,195	61.58
21	.001117	98,333	110	98,278	5,385,019	54.76	21	.000363	98,905	36	98,887	5,994,272	60.61
22	.001136	98,223	112	98,168	5,286,741	53.82	22	.000361	98,869	36	98,851	5,895,385	59.63
23	.001140	98,112	112	98,056	5,188,574	52.88	23	.000368	98,833	36	98,815	5,796,534	58.65
24	.001132	98,000	111	97,945	5,090,518	51.94	24	.000376	98,797	37	98,778	5,697,720	57.67
25	.001128	97,889	110	97,834	4,992,573	51.00	25	.000388	98,759	38	98,740	5,598,942	56.69
26	.001124	97,779	110	97,724	4,894,739	50.06	26	.000398	98,721	39	98,701	5,500,202	55.71
27	.001118	97,669	109	97,614	4,797,016	49.12	27	.000420	98,682	41	98,661	5,401,500	54.74
28	.001133	97,560	110	97,504	4,699,401	48.17	28	.000429	98,640	42	98,619	5,302,839	53.76
29	.001156	97,449	113	97,393	4,601,897	47.22	29	.000448	98,598	44	98,576	5,204,220	52.78
30	.001183	97,336	115	97,279	4,504,504	46.28	30	.000470	98,554	46	98,531	5,105,644	51.81
31	.001221	97,221	119	97,162	4,407,225	45.33	31	.000488	98,508	48	98,484	5,007,113	50.83
32	.001269	97,103	123	97,041	4,310,063	44.39	32	.000527	98,460	52	98,434	4,908,629	49.85
33	.001316	96,979	128	96,916	4,213,022	43.44	33	.000565	98,408	56	98,380	4,810,196	48.88
34	.001369	96,852	133	96,786	4,116,107	42.50	34	.000613	98,352	60	98,322	4,711,816	47.91
35	.001442	96,719	139	96,649	4,019,321	41.56	35	.000676	98,292	66	98,259	4,613,494	46.94
36	.001510	96,580	146	96,507	3,922,672	40.62	36	.000733	98,225	72	98,189	4,515,235	45.97
37	.001589	96,434	153	96,357	3,826,165	39.68	37	.000804	98,153	79	98,114	4,417,046	45.00
38	.001667	96,281	160	96,200	3,729,808	38.74	38	.000865	98,074	85	98,032	4,318,932	44.04
39	.001749	96,120	168	96,036	3,633,607	37.80	39	.000928	97,990	91	97,944	4,220,900	43.07
40	.001832	95,952	176	95,864	3,537,571	36.87	40	.000991	97,899	97	97,850	4,122,956	42.11
41	.001952	95,776	187	95,683	3,441,707	35.93	41	.001083	97,802	106	97,749	4,025,106	41.16
42	.002096	95,589	200	95,489	3,346,024	35.00	42	.001198	97,696	117	97,637	3,927,357	40.20
43	.002286	95,389	218	95,280	3,250,535	34.08	43	.001331	97,579	130	97,514	3,829,719	39.25
44	.002490	95,171	237	95,053	3,155,255	33.15	44	.001494	97,449	146	97,376	3,732,206	38.30
45	.002727	94,934	259	94,805	3,060,202	32.24	45	.001676	97,303	163	97,222	3,634,829	37.36
46	.003012	94,675	285	94,532	2,965,398	31.32	46	.001869	97,140	182	97,050	3,537,608	36.42
47	.003328	94,390	314	94,233	2,870,865	30.41	47	.002089	96,959	203	96,857	3,440,558	35.48
48	.003672	94,076	345	93,903	2,776,633	29.51	48	.002311	96,756	224	96,644	3,343,701	34.56
49	.004047	93,730	379	93,541	2,682,729	28.62	49	.002543	96,533	246	96,410	3,247,056	33.64
50	.004466	93,351	417	93,143	2,589,189	27.74	50	.002786	96,287	268	96,153	3,150,646	32.72
51	.004948	92,934	460	92,704	2,496,046	26.86	51	.003061	96,019	294	95,872	3,054,493	31.81
52	.005503	92,474	509	92,220	2,403,342	25.99	52	.003371	95,725	323	95,564	2,958,622	30.91
53	.006119	91,965	563	91,684	2,311,122	25.13	53	.003699	95,402	353	95,226	2,863,058	30.01
54	.006776	91,403	619	91,093	2,219,438	24.28	54	.004060	95,049	386	94,856	2,767,832	29.12
55	.007513	90,783	682	90,442	2,128,345	23.44	55	.004433	94,664	420	94,454	2,672,976	28.24
56	.008333	90,101	751	89,726	2,037,903	22.62	56	.004856	94,244	458	94,015	2,578,522	27.36
57	.009244	89,351	826	88,938	1,948,177	21.80	57	.005314	93,786	498	93,537	2,484,507	26.49
58	.010243	88,525	907	88,071	1,859,239	21.00	58	.005789	93,288	540	93,018	2,390,970	25.63
59	.011361	87,618	995	87,120	1,771,168	20.21	59	.006291	92,748	583	92,456	2,297,952	24.78

Calendar Year 1990 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.012546	86,622	1,087	86,079	1,684,048	19.44	60	.006835	92,164	630	91,849	2,205,496	23.93
61	.013846	85,536	1,184	84,944	1,597,969	18.68	61	.007443	91,534	681	91,194	2,113,647	23.09
62	.015265	84,351	1,288	83,708	1,513,025	17.94	62	.008155	90,853	741	90,483	2,022,453	22.26
63	.016787	83,064	1,394	82,366	1,429,318	17.21	63	.008940	90,112	806	89,709	1,931,970	21.44
64	.018400	81,669	1,503	80,918	1,346,951	16.49	64	.009778	89,307	873	88,870	1,842,261	20.63
65	.020151	80,167	1,615	79,359	1,266,033	15.79	65	.010712	88,433	947	87,960	1,753,391	19.83
66	.022077	78,551	1,734	77,684	1,186,674	15.11	66	.011753	87,486	1,028	86,972	1,665,431	19.04
67	.024212	76,817	1,860	75,887	1,108,990	14.44	67	.012915	86,458	1,117	85,900	1,578,459	18.26
68	.026488	74,957	1,985	73,964	1,033,103	13.78	68	.014171	85,341	1,209	84,737	1,492,559	17.49
69	.028924	72,972	2,111	71,916	959,139	13.14	69	.015470	84,132	1,302	83,481	1,407,823	16.73
70	.031568	70,861	2,237	69,743	887,223	12.52	70	.016926	82,830	1,402	82,129	1,324,341	15.99
71	.034426	68,624	2,362	67,443	817,480	11.91	71	.018603	81,428	1,515	80,671	1,242,212	15.26
72	.037736	66,262	2,500	65,011	750,037	11.32	72	.020571	79,914	1,644	79,092	1,161,541	14.53
73	.041527	63,761	2,648	62,437	685,026	10.74	73	.022806	78,270	1,785	77,377	1,082,449	13.83
74	.045549	61,113	2,784	59,722	622,589	10.19	74	.025213	76,485	1,928	75,520	1,005,072	13.14
75	.049997	58,330	2,916	56,872	562,867	9.65	75	.027920	74,556	2,082	73,515	929,552	12.47
76	.054836	55,413	3,039	53,894	505,995	9.13	76	.031006	72,475	2,247	71,351	856,036	11.81
77	.060198	52,375	3,153	50,798	452,101	8.63	77	.034560	70,228	2,427	69,014	784,685	11.17
78	.066105	49,222	3,254	47,595	401,303	8.15	78	.038499	67,801	2,610	66,495	715,671	10.56
79	.072425	45,968	3,329	44,303	353,708	7.69	79	.042773	65,190	2,788	63,796	649,176	9.96
80	.079318	42,639	3,382	40,948	309,404	7.26	80	.047501	62,402	2,964	60,920	585,380	9.38
81	.086775	39,257	3,407	37,554	268,457	6.84	81	.052841	59,438	3,141	57,867	524,460	8.82
82	.094797	35,850	3,399	34,151	230,903	6.44	82	.058883	56,297	3,315	54,639	466,593	8.29
83	.103387	32,452	3,355	30,774	196,752	6.06	83	.065550	52,982	3,473	51,246	411,953	7.78
84	.112598	29,097	3,276	27,459	165,978	5.70	84	.072793	49,509	3,604	47,707	360,707	7.29
85	.122403	25,820	3,161	24,240	138,519	5.36	85	.080699	45,905	3,705	44,053	313,000	6.82
86	.132854	22,660	3,010	21,155	114,279	5.04	86	.089421	42,201	3,774	40,314	268,948	6.37
87	.143908	19,650	2,828	18,236	93,124	4.74	87	.099103	38,427	3,808	36,523	228,634	5.95
88	.155716	16,822	2,619	15,512	74,888	4.45	88	.109659	34,619	3,796	32,721	192,111	5.55
89	.168161	14,202	2,388	13,008	59,376	4.18	89	.121027	30,823	3,730	28,957	159,390	5.17
90	.181244	11,814	2,141	10,743	46,368	3.92	90	.133313	27,092	3,612	25,286	130,433	4.81
91	.195171	9,673	1,888	8,729	35,625	3.68	91	.146609	23,480	3,442	21,759	105,147	4.48
92	.209955	7,785	1,634	6,968	26,896	3.45	92	.161107	20,038	3,228	18,424	83,387	4.16
93	.225547	6,150	1,387	5,457	19,928	3.24	93	.176708	16,810	2,970	15,325	64,964	3.86
94	.241907	4,763	1,152	4,187	14,471	3.04	94	.193321	13,839	2,675	12,502	49,639	3.59
95	.259098	3,611	936	3,143	10,284	2.85	95	.211086	11,164	2,357	9,986	37,137	3.33
96	.277194	2,675	742	2,305	7,141	2.67	96	.230133	8,807	2,027	7,794	27,152	3.08
97	.296252	1,934	573	1,647	4,836	2.50	97	.250621	6,780	1,699	5,931	19,358	2.85
98	.315129	1,361	429	1,146	3,189	2.34	98	.271254	5,081	1,378	4,392	13,427	2.64
99	.333762	932	311	777	2,042	2.19	99	.291909	3,703	1,081	3,162	9,035	2.44
100	.353903	621	220	511	1,266	2.04	100	.314523	2,622	825	2,210	5,873	2.24
101	.377332	401	151	326	755	1.88	101	.341132	1,797	613	1,491	3,663	2.04
102	.405610	250	101	199	429	1.72	102	.373545	1,184	442	963	2,172	1.83
103	.440718	148	65	116	230	1.55	103	.413801	742	307	588	1,209	1.63
104	.480377	83	40	63	114	1.38	104	.459314	435	200	335	621	1.43
105	.520739	43	22	32	51	1.19	105	.506054	235	119	176	286	1.22
106	.651164	21	13	14	19	0.94	106	.641945	116	75	79	110	0.95
107	.775063	7	6	4	5	0.75	107	.770907	42	32	26	31	0.76
108	.883894	2	1	1	1	0.62	108	.883754	10	8	5	6	0.62
109	1.000000	0	0	0	0	0.50	109	1.000000	1	1	1	1	0.50
110	1.000000	0	0	0	0	0.00	110	1.000000	0	0	0	0	0.00
111	1.000000	0	0	0	0	0.00	111	1.000000	0	0	0	0	0.00
112	1.000000	0	0	0	0	0.00	112	1.000000	0	0	0	0	0.00
113	1.000000	0	0	0	0	0.00	113	1.000000	0	0	0	0	0.00
114	1.000000	0	0	0	0	0.00	114	1.000000	0	0	0	0	0.00
115	1.000000	0	0	0	0	0.00	115	1.000000	0	0	0	0	0.00
116	1.000000	0	0	0	0	0.00	116	1.000000	0	0	0	0	0.00
117	1.000000	0	0	0	0	0.00	117	1.000000	0	0	0	0	0.00
118	1.000000	0	0	0	0	0.00	118	1.000000	0	0	0	0	0.00
119	1.000000	0	0	0	0	0.00	119	1.000000	0	0	0	0	0.00
120	1.000000	0	0	0	0	0.00	120	1.000000	0	0	0	0	0.00

Calendar Year 2000

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.005992	100,000	599	99,521	7,685,012	76.85	0	.004900	100,000	490	99,608	8,188,175	81.88
1	.000378	99,401	38	99,382	7,585,491	76.31	1	.000362	99,510	36	99,492	8,088,567	81.28
2	.000218	99,363	22	99,352	7,486,109	75.34	2	.000210	99,474	21	99,464	7,989,075	80.31
3	.000216	99,341	21	99,331	7,386,757	74.36	3	.000169	99,453	17	99,445	7,889,611	79.33
4	.000211	99,320	21	99,309	7,287,426	73.37	4	.000137	99,436	14	99,429	7,790,166	78.34
5	.000182	99,299	18	99,290	7,188,116	72.39	5	.000105	99,423	10	99,417	7,690,737	77.35
6	.000141	99,281	14	99,274	7,088,826	71.40	6	.000084	99,412	8	99,408	7,591,319	76.36
7	.000097	99,267	10	99,262	6,989,553	70.41	7	.000077	99,404	8	99,400	7,491,911	75.37
8	.000088	99,257	9	99,253	6,890,290	69.42	8	.000078	99,396	8	99,392	7,392,511	74.37
9	.000088	99,249	9	99,244	6,791,037	68.42	9	.000077	99,388	8	99,385	7,293,119	73.38
10	.000108	99,240	11	99,234	6,691,793	67.43	10	.000098	99,381	10	99,376	7,193,734	72.39
11	.000107	99,229	11	99,224	6,592,559	66.44	11	.000098	99,371	10	99,366	7,094,358	71.39
12	.000159	99,218	16	99,211	6,493,335	65.44	12	.000140	99,361	14	99,354	6,994,992	70.40
13	.000240	99,203	24	99,191	6,394,124	64.46	13	.000172	99,347	17	99,339	6,895,638	69.41
14	.000351	99,179	35	99,162	6,294,933	63.47	14	.000213	99,330	21	99,320	6,796,299	68.42
15	.000471	99,144	47	99,121	6,195,772	62.49	15	.000250	99,309	25	99,297	6,696,979	67.44
16	.000582	99,097	58	99,069	6,096,651	61.52	16	.000291	99,284	29	99,270	6,597,683	66.45
17	.000670	99,040	66	99,007	5,997,582	60.56	17	.000319	99,255	32	99,240	6,498,413	65.47
18	.000728	98,973	72	98,937	5,898,576	59.60	18	.000337	99,224	33	99,207	6,399,173	64.49
19	.000785	98,901	78	98,863	5,799,638	58.64	19	.000343	99,190	34	99,173	6,299,966	63.51
20	.000821	98,824	81	98,783	5,700,776	57.69	20	.000337	99,156	33	99,140	6,200,793	62.54
21	.000846	98,743	84	98,701	5,601,992	56.73	21	.000335	99,123	33	99,106	6,101,653	61.56
22	.000865	98,659	85	98,617	5,503,291	55.78	22	.000331	99,090	33	99,073	6,002,547	60.58
23	.000870	98,574	86	98,531	5,404,675	54.83	23	.000326	99,057	32	99,041	5,903,473	59.60
24	.000853	98,488	84	98,446	5,306,144	53.88	24	.000331	99,025	33	99,008	5,804,433	58.62
25	.000839	98,404	83	98,363	5,207,698	52.92	25	.000336	98,992	33	98,975	5,705,424	57.64
26	.000826	98,322	81	98,281	5,109,335	51.97	26	.000341	98,959	34	98,942	5,606,449	56.65
27	.000818	98,240	80	98,200	5,011,054	51.01	27	.000344	98,925	34	98,908	5,507,507	55.67
28	.000843	98,160	83	98,119	4,912,854	50.05	28	.000367	98,891	36	98,873	5,408,600	54.69
29	.000869	98,077	85	98,035	4,814,735	49.09	29	.000388	98,855	38	98,835	5,309,727	53.71
30	.000913	97,992	89	97,947	4,716,700	48.13	30	.000408	98,816	40	98,796	5,210,892	52.73
31	.000946	97,903	93	97,856	4,618,753	47.18	31	.000440	98,776	43	98,754	5,112,095	51.75
32	.001001	97,810	98	97,761	4,520,897	46.22	32	.000480	98,732	47	98,709	5,013,341	50.78
33	.001042	97,712	102	97,661	4,423,136	45.27	33	.000513	98,685	51	98,660	4,914,633	49.80
34	.001091	97,610	106	97,557	4,325,475	44.31	34	.000556	98,634	55	98,607	4,815,973	48.83
35	.001142	97,504	111	97,448	4,227,918	43.36	35	.000607	98,580	60	98,550	4,717,366	47.85
36	.001202	97,392	117	97,334	4,130,470	42.41	36	.000660	98,520	65	98,487	4,618,816	46.88
37	.001273	97,275	124	97,213	4,033,136	41.46	37	.000720	98,455	71	98,419	4,520,329	45.91
38	.001368	97,152	133	97,085	3,935,923	40.51	38	.000780	98,384	77	98,345	4,421,910	44.95
39	.001462	97,019	142	96,948	3,838,837	39.57	39	.000850	98,307	84	98,265	4,323,565	43.98
40	.001575	96,877	153	96,801	3,741,890	38.63	40	.000928	98,223	91	98,178	4,225,299	43.02
41	.001697	96,724	164	96,642	3,645,089	37.69	41	.001005	98,132	99	98,083	4,127,122	42.06
42	.001837	96,560	177	96,471	3,548,447	36.75	42	.001109	98,034	109	97,979	4,029,039	41.10
43	.002006	96,383	193	96,286	3,451,976	35.82	43	.001212	97,925	119	97,866	3,931,059	40.14
44	.002178	96,189	209	96,085	3,355,690	34.89	44	.001319	97,806	129	97,742	3,833,194	39.19
45	.002369	95,980	227	95,866	3,259,605	33.96	45	.001431	97,677	140	97,607	3,735,452	38.24
46	.002581	95,753	247	95,629	3,163,739	33.04	46	.001570	97,537	153	97,461	3,637,845	37.30
47	.002821	95,505	269	95,371	3,068,110	32.12	47	.001725	97,384	168	97,300	3,540,384	36.35
48	.003072	95,236	293	95,090	2,972,739	31.21	48	.001898	97,216	185	97,124	3,443,084	35.42
49	.003348	94,944	318	94,785	2,877,649	30.31	49	.002080	97,032	202	96,931	3,345,960	34.48
50	.003645	94,626	345	94,453	2,782,864	29.41	50	.002286	96,830	221	96,719	3,249,029	33.55
51	.003988	94,281	376	94,093	2,688,411	28.51	51	.002521	96,609	244	96,487	3,152,310	32.63
52	.004394	93,905	413	93,698	2,594,318	27.63	52	.002786	96,365	268	96,231	3,055,823	31.71
53	.004860	93,492	454	93,265	2,500,620	26.75	53	.003087	96,097	297	95,948	2,959,592	30.80
54	.005364	93,038	499	92,788	2,407,355	25.88	54	.003416	95,800	327	95,636	2,863,644	29.89
55	.005922	92,539	548	92,265	2,314,567	25.01	55	.003776	95,473	361	95,292	2,768,007	28.99
56	.006560	91,991	603	91,689	2,222,302	24.16	56	.004174	95,112	397	94,914	2,672,715	28.10
57	.007273	91,387	665	91,055	2,130,613	23.31	57	.004596	94,715	435	94,498	2,577,801	27.22
58	.008058	90,723	731	90,357	2,039,558	22.48	58	.005038	94,280	475	94,042	2,483,304	26.34
59	.008908	89,992	802	89,591	1,949,201	21.66	59	.005490	93,805	515	93,547	2,389,262	25.47

Calendar Year 2000 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.009827	89,190	876	88,752	1,859,611	20.85	60	.005997	93,290	559	93,010	2,295,714	24.61
61	.010864	88,313	959	87,834	1,770,859	20.05	61	.006550	92,730	607	92,427	2,202,704	23.75
62	.012002	87,354	1,048	86,830	1,683,025	19.27	62	.007189	92,123	662	91,792	2,110,277	22.91
63	.013248	86,306	1,143	85,734	1,596,195	18.49	63	.007899	91,461	722	91,100	2,018,485	22.07
64	.014561	85,162	1,240	84,542	1,510,461	17.74	64	.008667	90,738	786	90,345	1,927,386	21.24
65	.015993	83,922	1,342	83,251	1,425,919	16.99	65	.009506	89,952	855	89,524	1,837,041	20.42
66	.017599	82,580	1,453	81,853	1,342,668	16.26	66	.010445	89,097	931	88,631	1,747,517	19.61
67	.019368	81,127	1,571	80,341	1,260,815	15.54	67	.011500	88,166	1,014	87,659	1,658,885	18.82
68	.021300	79,555	1,694	78,708	1,180,474	14.84	68	.012629	87,152	1,101	86,602	1,571,226	18.03
69	.023378	77,861	1,820	76,951	1,101,765	14.15	69	.013831	86,051	1,190	85,456	1,484,624	17.25
70	.025625	76,041	1,949	75,067	1,024,814	13.48	70	.015151	84,861	1,286	84,218	1,399,168	16.49
71	.028168	74,092	2,087	73,049	949,748	12.82	71	.016682	83,576	1,394	82,879	1,314,949	15.73
72	.031104	72,005	2,240	70,885	876,699	12.18	72	.018483	82,181	1,519	81,422	1,232,071	14.99
73	.034370	69,766	2,398	68,567	805,814	11.55	73	.020468	80,662	1,651	79,837	1,150,649	14.26
74	.037882	67,368	2,552	66,092	737,247	10.94	74	.022609	79,011	1,786	78,118	1,070,812	13.55
75	.041754	64,816	2,706	63,463	671,155	10.35	75	.025017	77,225	1,932	76,259	992,694	12.85
76	.046128	62,109	2,865	60,677	607,693	9.78	76	.027802	75,293	2,093	74,246	916,434	12.17
77	.051056	59,244	3,025	57,732	547,016	9.23	77	.031071	73,200	2,274	72,063	842,188	11.51
78	.056445	56,220	3,173	54,633	489,284	8.70	78	.034687	70,925	2,460	69,695	770,125	10.86
79	.062253	53,046	3,302	51,395	434,651	8.19	79	.038555	68,465	2,640	67,145	700,430	10.23
80	.068598	49,744	3,412	48,038	383,256	7.70	80	.042923	65,826	2,825	64,413	633,285	9.62
81	.075575	46,332	3,502	44,581	335,218	7.24	81	.048011	63,000	3,025	61,488	568,872	9.03
82	.083506	42,830	3,577	41,042	290,637	6.79	82	.054073	59,975	3,243	58,354	507,384	8.46
83	.092225	39,254	3,620	37,444	249,595	6.36	83	.061252	56,732	3,475	54,995	449,030	7.91
84	.101425	35,633	3,614	33,826	212,151	5.95	84	.069330	53,257	3,692	51,411	394,035	7.40
85	.111611	32,019	3,574	30,233	178,325	5.57	85	.078183	49,565	3,875	47,627	342,624	6.91
86	.122921	28,446	3,497	26,697	148,092	5.21	86	.087636	45,690	4,004	43,688	294,997	6.46
87	.134212	24,949	3,348	23,275	121,395	4.87	87	.097561	41,686	4,067	39,652	251,309	6.03
88	.147337	21,601	3,183	20,009	98,120	4.54	88	.108516	37,619	4,082	35,578	211,656	5.63
89	.160763	18,418	2,961	16,938	78,111	4.24	89	.120059	33,537	4,026	31,523	176,078	5.25
90	.174946	15,457	2,704	14,105	61,173	3.96	90	.132191	29,510	3,901	27,560	144,555	4.90
91	.189955	12,753	2,422	11,542	47,068	3.69	91	.144821	25,609	3,709	23,755	116,995	4.57
92	.205845	10,330	2,126	9,267	35,526	3.44	92	.157840	21,901	3,457	20,172	93,240	4.26
93	.224635	8,204	1,843	7,283	26,259	3.20	93	.172787	18,444	3,187	16,850	73,068	3.96
94	.242857	6,361	1,545	5,589	18,976	2.98	94	.188874	15,257	2,882	13,816	56,218	3.68
95	.262115	4,816	1,262	4,185	13,388	2.78	95	.205983	12,375	2,549	11,101	42,402	3.43
96	.282438	3,554	1,004	3,052	9,203	2.59	96	.224126	9,826	2,202	8,725	31,301	3.19
97	.303817	2,550	775	2,163	6,151	2.41	97	.243301	7,624	1,855	6,696	22,576	2.96
98	.326261	1,775	579	1,486	3,988	2.25	98	.263502	5,769	1,520	5,009	15,879	2.75
99	.349738	1,196	418	987	2,502	2.09	99	.284717	4,249	1,210	3,644	10,871	2.56
100	.374247	778	291	632	1,515	1.95	100	.306905	3,039	933	2,573	7,227	2.38
101	.399763	487	195	389	883	1.81	101	.330044	2,106	695	1,759	4,654	2.21
102	.426246	292	125	230	494	1.69	102	.354100	1,411	500	1,161	2,895	2.05
103	.453661	168	76	130	264	1.57	103	.378994	911	345	739	1,734	1.90
104	.481958	92	44	70	134	1.46	104	.404695	566	229	452	995	1.76
105	.511078	47	24	35	65	1.36	105	.431126	337	145	264	543	1.61
106	.540961	23	13	17	29	1.26	106	.458204	192	88	148	279	1.46
107	.547093	11	6	8	12	1.15	107	.485864	104	50	79	131	1.26
108	.554918	5	3	3	5	0.95	108	.514018	53	27	40	53	0.99
109	1.000000	2	2	1	1	0.50	109	1.000000	26	26	13	13	0.50
110	1.000000	0	0	0	0	0.00	110	1.000000	0	0	0	0	0.00
111	1.000000	0	0	0	0	0.00	111	1.000000	0	0	0	0	0.00
112	1.000000	0	0	0	0	0.00	112	1.000000	0	0	0	0	0.00
113	1.000000	0	0	0	0	0.00	113	1.000000	0	0	0	0	0.00
114	1.000000	0	0	0	0	0.00	114	1.000000	0	0	0	0	0.00
115	1.000000	0	0	0	0	0.00	115	1.000000	0	0	0	0	0.00
116	1.000000	0	0	0	0	0.00	116	1.000000	0	0	0	0	0.00
117	1.000000	0	0	0	0	0.00	117	1.000000	0	0	0	0	0.00
118	1.000000	0	0	0	0	0.00	118	1.000000	0	0	0	0	0.00
119	1.000000	0	0	0	0	0.00	119	1.000000	0	0	0	0	0.00
120	1.000000	0	0	0	0	0.00	120	1.000000	0	0	0	0	0.00

Calendar Year 2010

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.004969	100,000	497	99,602	7,921,614	79.22	0	.004151	100,000	415	99,668	8,323,557	83.24
1	.000291	99,503	29	99,489	7,822,011	78.61	1	.000292	99,585	29	99,570	8,223,889	82.58
2	.000150	99,474	15	99,467	7,722,523	77.63	2	.000161	99,556	16	99,548	8,124,318	81.61
3	.000158	99,459	16	99,451	7,623,056	76.65	3	.000121	99,540	12	99,534	8,024,770	80.62
4	.000162	99,443	16	99,435	7,523,605	75.66	4	.000094	99,528	9	99,523	7,925,236	79.63
5	.000141	99,427	14	99,420	7,424,169	74.67	5	.000070	99,518	7	99,515	7,825,713	78.64
6	.000109	99,413	11	99,408	7,324,749	73.68	6	.000056	99,512	6	99,509	7,726,198	77.64
7	.000073	99,403	7	99,399	7,225,341	72.69	7	.000052	99,506	5	99,503	7,626,689	76.65
8	.000067	99,395	7	99,392	7,125,942	71.69	8	.000054	99,501	5	99,498	7,527,186	75.65
9	.000066	99,389	7	99,385	7,026,550	70.70	9	.000055	99,495	5	99,493	7,427,688	74.65
10	.000081	99,382	8	99,378	6,927,165	69.70	10	.000073	99,490	7	99,486	7,328,195	73.66
11	.000079	99,374	8	99,370	6,827,787	68.71	11	.000075	99,483	7	99,479	7,228,709	72.66
12	.000115	99,366	11	99,360	6,728,417	67.71	12	.000112	99,475	11	99,470	7,129,230	71.67
13	.000178	99,355	18	99,346	6,629,056	66.72	13	.000138	99,464	14	99,457	7,029,760	70.68
14	.000264	99,337	26	99,324	6,529,711	65.73	14	.000174	99,450	17	99,442	6,930,303	69.69
15	.000359	99,311	36	99,293	6,430,387	64.75	15	.000208	99,433	21	99,423	6,830,861	68.70
16	.000445	99,275	44	99,253	6,331,094	63.77	16	.000244	99,412	24	99,400	6,731,439	67.71
17	.000515	99,231	51	99,205	6,231,840	62.80	17	.000270	99,388	27	99,375	6,632,038	66.73
18	.000563	99,180	56	99,152	6,132,635	61.83	18	.000288	99,361	29	99,347	6,532,664	65.75
19	.000613	99,124	61	99,094	6,033,483	60.87	19	.000298	99,333	30	99,318	6,433,317	64.77
20	.000645	99,063	64	99,031	5,934,389	59.90	20	.000296	99,303	29	99,288	6,333,999	63.78
21	.000670	98,999	66	98,966	5,835,358	58.94	21	.000298	99,274	30	99,259	6,234,710	62.80
22	.000690	98,933	68	98,899	5,736,391	57.98	22	.000296	99,244	29	99,229	6,135,451	61.82
23	.000688	98,865	68	98,831	5,637,492	57.02	23	.000286	99,215	28	99,201	6,036,222	60.84
24	.000667	98,797	66	98,764	5,538,662	56.06	24	.000287	99,186	28	99,172	5,937,022	59.86
25	.000650	98,731	64	98,699	5,439,898	55.10	25	.000287	99,158	28	99,144	5,837,849	58.87
26	.000634	98,667	63	98,636	5,341,199	54.13	26	.000288	99,129	29	99,115	5,738,706	57.89
27	.000622	98,604	61	98,574	5,242,563	53.17	27	.000287	99,101	28	99,087	5,639,591	56.91
28	.000640	98,543	63	98,511	5,143,989	52.20	28	.000308	99,072	31	99,057	5,540,504	55.92
29	.000655	98,480	64	98,448	5,045,478	51.23	29	.000330	99,042	33	99,026	5,441,447	54.94
30	.000688	98,415	68	98,382	4,947,030	50.27	30	.000349	99,009	35	98,992	5,342,421	53.96
31	.000709	98,348	70	98,313	4,848,649	49.30	31	.000379	98,975	38	98,956	5,243,429	52.98
32	.000750	98,278	74	98,241	4,750,336	48.34	32	.000416	98,937	41	98,917	5,144,473	52.00
33	.000785	98,204	77	98,166	4,652,095	47.37	33	.000448	98,896	44	98,874	5,045,557	51.02
34	.000831	98,127	82	98,086	4,553,929	46.41	34	.000489	98,852	48	98,828	4,946,683	50.04
35	.000877	98,046	86	98,003	4,455,843	45.45	35	.000538	98,803	53	98,777	4,847,855	49.07
36	.000930	97,960	91	97,914	4,357,840	44.49	36	.000589	98,750	58	98,721	4,749,078	48.09
37	.000994	97,869	97	97,820	4,259,926	43.53	37	.000644	98,692	64	98,660	4,650,357	47.12
38	.001082	97,771	106	97,718	4,162,106	42.57	38	.000697	98,628	69	98,594	4,551,697	46.15
39	.001171	97,665	114	97,608	4,064,388	41.62	39	.000755	98,560	74	98,522	4,453,103	45.18
40	.001279	97,551	125	97,489	3,966,779	40.66	40	.000822	98,485	81	98,445	4,354,580	44.22
41	.001397	97,426	136	97,358	3,869,291	39.72	41	.000887	98,404	87	98,361	4,256,136	43.25
42	.001533	97,290	149	97,216	3,771,932	38.77	42	.000975	98,317	96	98,269	4,157,775	42.29
43	.001687	97,141	164	97,059	3,674,717	37.83	43	.001063	98,221	104	98,169	4,059,506	41.33
44	.001847	96,977	179	96,888	3,577,657	36.89	44	.001150	98,117	113	98,060	3,961,337	40.37
45	.002024	96,798	196	96,700	3,480,770	35.96	45	.001241	98,004	122	97,943	3,863,276	39.42
46	.002216	96,602	214	96,495	3,384,070	35.03	46	.001355	97,882	133	97,816	3,765,333	38.47
47	.002424	96,388	234	96,271	3,287,575	34.11	47	.001477	97,750	144	97,677	3,667,517	37.52
48	.002625	96,154	252	96,028	3,191,303	33.19	48	.001630	97,605	159	97,526	3,569,840	36.57
49	.002842	95,902	273	95,766	3,095,275	32.28	49	.001785	97,446	174	97,359	3,472,314	35.63
50	.003072	95,630	294	95,483	2,999,509	31.37	50	.001962	97,272	191	97,177	3,374,955	34.70
51	.003341	95,336	319	95,177	2,904,026	30.46	51	.002168	97,082	210	96,976	3,277,778	33.76
52	.003663	95,017	348	94,843	2,808,850	29.56	52	.002396	96,871	232	96,755	3,180,802	32.84
53	.004044	94,669	383	94,478	2,714,007	28.67	53	.002660	96,639	257	96,510	3,084,047	31.91
54	.004476	94,286	422	94,075	2,619,529	27.78	54	.002951	96,382	284	96,240	2,987,536	31.00
55	.004941	93,864	464	93,633	2,525,453	26.91	55	.003267	96,097	314	95,941	2,891,296	30.09
56	.005464	93,401	510	93,145	2,431,821	26.04	56	.003613	95,784	346	95,611	2,795,356	29.18
57	.006045	92,890	562	92,610	2,338,675	25.18	57	.003984	95,437	380	95,247	2,699,745	28.29
58	.006689	92,329	618	92,020	2,246,066	24.33	58	.004380	95,057	416	94,849	2,604,498	27.40
59	.007374	91,711	676	91,373	2,154,046	23.49	59	.004780	94,641	452	94,415	2,509,649	26.52

Calendar Year 2010 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.008108	91,035	738	90,666	2,062,673	22.66	60	.005232	94,189	493	93,942	2,415,234	25.64
61	.008931	90,297	806	89,894	1,972,007	21.84	61	.005724	93,696	536	93,428	2,321,292	24.77
62	.009832	89,490	880	89,050	1,882,114	21.03	62	.006298	93,159	587	92,866	2,227,864	23.91
63	.010806	88,610	957	88,132	1,793,063	20.24	63	.006936	92,573	642	92,252	2,134,998	23.06
64	.011823	87,653	1,036	87,135	1,704,931	19.45	64	.007634	91,931	702	91,580	2,042,747	22.22
65	.012303	86,617	1,066	86,084	1,617,797	18.68	65	.008215	91,229	749	90,854	1,951,167	21.39
66	.013503	85,551	1,155	84,973	1,531,713	17.90	66	.009046	90,479	818	90,070	1,860,313	20.56
67	.014818	84,396	1,251	83,771	1,446,739	17.14	67	.009979	89,661	895	89,214	1,770,243	19.74
68	.016339	83,145	1,359	82,466	1,362,969	16.39	68	.010953	88,766	972	88,280	1,681,029	18.94
69	.017948	81,787	1,468	81,053	1,280,503	15.66	69	.011986	87,794	1,052	87,268	1,592,749	18.14
70	.019745	80,319	1,586	79,526	1,199,450	14.93	70	.013121	86,742	1,138	86,173	1,505,481	17.36
71	.021776	78,733	1,715	77,876	1,119,924	14.22	71	.014436	85,604	1,236	84,986	1,419,308	16.58
72	.024147	77,018	1,860	76,089	1,042,048	13.53	72	.015974	84,368	1,348	83,694	1,334,323	15.82
73	.026770	75,159	2,012	74,153	965,960	12.85	73	.017680	83,020	1,468	82,286	1,250,629	15.06
74	.029600	73,147	2,165	72,064	891,807	12.19	74	.019523	81,552	1,592	80,756	1,168,343	14.33
75	.032731	70,982	2,323	69,820	819,743	11.55	75	.021590	79,960	1,726	79,097	1,087,586	13.60
76	.036254	68,658	2,489	67,414	749,923	10.92	76	.023984	78,234	1,876	77,296	1,008,489	12.89
77	.040211	66,169	2,661	64,839	682,509	10.31	77	.026792	76,357	2,046	75,335	931,194	12.20
78	.044726	63,508	2,840	62,088	617,670	9.73	78	.029978	74,312	2,228	73,198	855,859	11.52
79	.049642	60,668	3,012	59,162	555,582	9.16	79	.033378	72,084	2,406	70,881	782,661	10.86
80	.055026	57,656	3,173	56,070	496,420	8.61	80	.037240	69,678	2,595	68,381	711,780	10.22
81	.061104	54,484	3,329	52,819	440,350	8.08	81	.041805	67,083	2,804	65,681	643,400	9.59
82	.068022	51,155	3,480	49,415	387,531	7.58	82	.047291	64,279	3,040	62,759	577,719	8.99
83	.075800	47,675	3,614	45,868	338,116	7.09	83	.053973	61,239	3,305	59,586	514,960	8.41
84	.084106	44,061	3,706	42,208	292,248	6.63	84	.061606	57,934	3,569	56,149	455,374	7.86
85	.093398	40,355	3,769	38,471	250,040	6.20	85	.070014	54,365	3,806	52,461	399,225	7.34
86	.104097	36,586	3,809	34,682	211,569	5.78	86	.078978	50,558	3,993	48,562	346,763	6.86
87	.114716	32,778	3,760	30,898	176,887	5.40	87	.088307	46,565	4,112	44,509	298,202	6.40
88	.126662	29,018	3,675	27,180	145,989	5.03	88	.098521	42,453	4,183	40,362	253,692	5.98
89	.138611	25,342	3,513	23,586	118,809	4.69	89	.109103	38,271	4,175	36,183	213,330	5.57
90	.152006	21,829	3,318	20,170	95,224	4.36	90	.120535	34,095	4,110	32,040	177,147	5.20
91	.166216	18,511	3,077	16,973	75,053	4.05	91	.132330	29,986	3,968	28,002	145,107	4.84
92	.181465	15,434	2,801	14,034	58,080	3.76	92	.144309	26,018	3,755	24,140	117,105	4.50
93	.199019	12,634	2,514	11,376	44,046	3.49	93	.159401	22,263	3,549	20,489	92,965	4.18
94	.217950	10,119	2,205	9,017	32,670	3.23	94	.175517	18,714	3,285	17,072	72,476	3.87
95	.238241	7,914	1,885	6,971	23,653	2.99	95	.192826	15,430	2,975	13,942	55,404	3.59
96	.260017	6,028	1,567	5,245	16,682	2.77	96	.211374	12,454	2,633	11,138	41,462	3.33
97	.283326	4,461	1,264	3,829	11,438	2.56	97	.231189	9,822	2,271	8,686	30,324	3.09
98	.305939	3,197	978	2,708	7,609	2.38	98	.251312	7,551	1,898	6,602	21,638	2.87
99	.329784	2,219	732	1,853	4,901	2.21	99	.272576	5,653	1,541	4,883	15,035	2.66
100	.354883	1,487	528	1,223	3,048	2.05	100	.294961	4,112	1,213	3,506	10,152	2.47
101	.381229	959	366	777	1,825	1.90	101	.318459	2,899	923	2,438	6,646	2.29
102	.408805	594	243	472	1,048	1.77	102	.343059	1,976	678	1,637	4,209	2.13
103	.437597	351	154	274	576	1.64	103	.368693	1,298	479	1,059	2,571	1.98
104	.467573	197	92	151	302	1.53	104	.395348	820	324	658	1,513	1.85
105	.498690	105	52	79	150	1.43	105	.422965	496	210	391	855	1.73
106	.521473	53	27	39	71	1.36	106	.446978	286	128	222	464	1.62
107	.543834	25	14	18	32	1.29	107	.470714	158	74	121	242	1.53
108	.565634	12	7	8	14	1.23	108	.493988	84	41	63	121	1.45
109	.586734	5	3	4	6	1.17	109	.516612	42	22	31	58	1.38
110	.604227	2	1	1	2	1.13	110	.536753	20	11	15	27	1.32
111	.620583	1	1	1	1	1.09	111	.555744	9	5	7	12	1.26
112	.635683	0	0	0	0	1.06	112	.573410	4	2	3	5	1.21
113	.649413	0	0	0	0	1.03	113	.589583	2	1	1	2	1.17
114	.661672	0	0	0	0	1.00	114	.604109	1	0	1	1	1.13
115	.672364	0	0	0	0	0.98	115	.616844	0	0	0	0	1.10
116	.681406	0	0	0	0	0.96	116	.627662	0	0	0	0	1.07
117	.688728	0	0	0	0	0.93	117	.636452	0	0	0	0	1.03
118	.694271	0	0	0	0	0.88	118	.643126	0	0	0	0	0.96
119	.697992	0	0	0	0	0.76	119	.647614	0	0	0	0	0.79
120	.699860	0	0	0	0	0.35	120	.649870	0	0	0	0	0.32

Calendar Year 2025

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.003964	100,000	396	99,683	8,131,778	81.32	0	.003397	100,000	340	99,728	8,450,208	84.50
1	.000214	99,604	21	99,593	8,032,095	80.64	1	.000226	99,660	22	99,649	8,350,479	83.79
2	.000103	99,582	10	99,577	7,932,502	79.66	2	.000117	99,638	12	99,632	8,250,830	82.81
3	.000110	99,572	11	99,567	7,832,925	78.67	3	.000086	99,626	9	99,622	8,151,198	81.82
4	.000112	99,561	11	99,556	7,733,358	77.67	4	.000065	99,618	6	99,614	8,051,576	80.82
5	.000099	99,550	10	99,545	7,633,803	76.68	5	.000048	99,611	5	99,609	7,951,962	79.83
6	.000077	99,540	8	99,536	7,534,258	75.69	6	.000037	99,606	4	99,605	7,852,353	78.83
7	.000053	99,532	5	99,530	7,434,722	74.70	7	.000033	99,603	3	99,601	7,752,749	77.84
8	.000047	99,527	5	99,525	7,335,192	73.70	8	.000035	99,599	3	99,598	7,653,148	76.84
9	.000047	99,522	5	99,520	7,235,667	72.70	9	.000037	99,596	4	99,594	7,553,550	75.84
10	.000058	99,518	6	99,515	7,136,147	71.71	10	.000051	99,592	5	99,590	7,453,956	74.84
11	.000056	99,512	6	99,509	7,036,632	70.71	11	.000055	99,587	5	99,584	7,354,366	73.85
12	.000082	99,506	8	99,502	6,937,123	69.72	12	.000084	99,582	8	99,578	7,254,782	72.85
13	.000126	99,498	13	99,492	6,837,620	68.72	13	.000106	99,573	11	99,568	7,155,204	71.86
14	.000189	99,486	19	99,476	6,738,128	67.73	14	.000136	99,563	14	99,556	7,055,636	70.87
15	.000259	99,467	26	99,454	6,638,652	66.74	15	.000160	99,549	16	99,541	6,956,080	69.88
16	.000323	99,441	32	99,425	6,539,198	65.76	16	.000198	99,533	20	99,523	6,856,539	68.89
17	.000377	99,409	37	99,390	6,439,773	64.78	17	.000222	99,513	22	99,502	6,757,016	67.90
18	.000416	99,372	41	99,351	6,340,382	63.80	18	.000238	99,491	24	99,479	6,657,514	66.92
19	.000457	99,330	45	99,308	6,241,031	62.83	19	.000247	99,467	25	99,455	6,558,035	65.93
20	.000487	99,285	48	99,261	6,141,724	61.86	20	.000247	99,443	25	99,430	6,458,580	64.95
21	.000511	99,237	51	99,211	6,042,463	60.89	21	.000249	99,418	25	99,406	6,359,149	63.96
22	.000531	99,186	53	99,160	5,943,251	59.92	22	.000249	99,393	25	99,381	6,259,744	62.98
23	.000525	99,133	52	99,107	5,844,092	58.95	23	.000239	99,369	24	99,357	6,160,363	62.00
24	.000504	99,081	50	99,056	5,744,985	57.98	24	.000238	99,345	24	99,333	6,061,006	61.01
25	.000487	99,031	48	99,007	5,645,928	57.01	25	.000237	99,321	23	99,309	5,961,673	60.02
26	.000470	98,983	47	98,960	5,546,921	56.04	26	.000235	99,298	23	99,286	5,862,363	59.04
27	.000457	98,936	45	98,914	5,447,962	55.07	27	.000232	99,274	23	99,263	5,763,077	58.05
28	.000469	98,891	46	98,868	5,349,048	54.09	28	.000251	99,251	25	99,239	5,663,814	57.07
29	.000480	98,845	47	98,821	5,250,180	53.12	29	.000269	99,226	27	99,213	5,564,575	56.08
30	.000503	98,797	50	98,773	5,151,359	52.14	30	.000287	99,200	28	99,185	5,465,362	55.09
31	.000519	98,748	51	98,722	5,052,586	51.17	31	.000313	99,171	31	99,156	5,366,177	54.11
32	.000548	98,697	54	98,669	4,953,864	50.19	32	.000346	99,140	34	99,123	5,267,021	53.13
33	.000580	98,642	57	98,614	4,855,194	49.22	33	.000377	99,106	37	99,087	5,167,898	52.15
34	.000620	98,585	61	98,555	4,756,581	48.25	34	.000416	99,069	41	99,048	5,068,811	51.16
35	.000661	98,524	65	98,492	4,658,026	47.28	35	.000461	99,027	46	99,005	4,969,763	50.19
36	.000709	98,459	70	98,424	4,559,534	46.31	36	.000509	98,982	50	98,957	4,870,758	49.21
37	.000766	98,389	75	98,352	4,461,110	45.34	37	.000560	98,931	55	98,904	4,771,802	48.23
38	.000845	98,314	83	98,272	4,362,759	44.38	38	.000606	98,876	60	98,846	4,672,898	47.26
39	.000929	98,231	91	98,185	4,264,486	43.41	39	.000655	98,816	65	98,784	4,574,052	46.29
40	.001029	98,140	101	98,089	4,166,301	42.45	40	.000712	98,751	70	98,716	4,475,268	45.32
41	.001141	98,039	112	97,983	4,068,212	41.50	41	.000767	98,681	76	98,643	4,376,552	44.35
42	.001270	97,927	124	97,865	3,970,230	40.54	42	.000843	98,605	83	98,564	4,277,909	43.38
43	.001399	97,802	137	97,734	3,872,365	39.59	43	.000912	98,522	90	98,477	4,179,345	42.42
44	.001534	97,666	150	97,591	3,774,631	38.65	44	.000980	98,432	96	98,384	4,080,867	41.46
45	.001684	97,516	164	97,434	3,677,040	37.71	45	.001049	98,336	103	98,284	3,982,483	40.50
46	.001846	97,351	180	97,262	3,579,607	36.77	46	.001135	98,233	111	98,177	3,884,198	39.54
47	.002021	97,172	196	97,074	3,482,345	35.84	47	.001227	98,121	120	98,061	3,786,021	38.59
48	.002180	96,975	211	96,870	3,385,272	34.91	48	.001358	98,001	133	97,935	3,687,960	37.63
49	.002350	96,764	227	96,650	3,288,402	33.98	49	.001494	97,868	146	97,795	3,590,026	36.68
50	.002534	96,537	245	96,414	3,191,751	33.06	50	.001648	97,722	161	97,641	3,492,231	35.74
51	.002745	96,292	264	96,160	3,095,337	32.15	51	.001826	97,561	178	97,472	3,394,589	34.79
52	.002999	96,028	288	95,884	2,999,177	31.23	52	.002022	97,383	197	97,284	3,297,118	33.86
53	.003299	95,740	316	95,582	2,903,294	30.32	53	.002248	97,186	219	97,076	3,199,833	32.92
54	.003641	95,424	347	95,250	2,807,712	29.42	54	.002500	96,967	242	96,846	3,102,757	32.00
55	.004006	95,076	381	94,886	2,712,462	28.53	55	.002771	96,725	268	96,591	3,005,911	31.08
56	.004414	94,696	418	94,487	2,617,576	27.64	56	.003069	96,457	296	96,309	2,909,320	30.16
57	.004867	94,278	459	94,048	2,523,089	26.76	57	.003389	96,161	326	95,998	2,813,011	29.25
58	.005374	93,819	504	93,567	2,429,041	25.89	58	.003735	95,835	358	95,656	2,717,013	28.35
59	.005903	93,314	551	93,039	2,335,475	25.03	59	.004083	95,477	390	95,282	2,621,357	27.46

Calendar Year 2025 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.006469	92,764	600	92,464	2,242,436	24.17	60	.004477	95,087	426	94,874	2,526,075	26.57
61	.007098	92,164	654	91,836	2,149,972	23.33	61	.004906	94,661	464	94,429	2,431,201	25.68
62	.007797	91,509	713	91,153	2,058,136	22.49	62	.005415	94,197	510	93,942	2,336,772	24.81
63	.008537	90,796	775	90,408	1,966,983	21.66	63	.005974	93,687	560	93,407	2,242,830	23.94
64	.009313	90,021	838	89,601	1,876,575	20.85	64	.006585	93,127	613	92,821	2,149,423	23.08
65	.009679	89,182	863	88,751	1,786,973	20.04	65	.007095	92,514	656	92,186	2,056,602	22.23
66	.010590	88,319	935	87,852	1,698,223	19.23	66	.007841	91,858	720	91,497	1,964,416	21.39
67	.011575	87,384	1,011	86,878	1,610,371	18.43	67	.008670	91,137	790	90,742	1,872,919	20.55
68	.012819	86,372	1,107	85,819	1,523,493	17.64	68	.009508	90,347	859	89,918	1,782,177	19.73
69	.014145	85,265	1,206	84,662	1,437,674	16.86	69	.010392	89,488	930	89,023	1,692,259	18.91
70	.015616	84,059	1,313	83,403	1,353,012	16.10	70	.011369	88,558	1,007	88,055	1,603,236	18.10
71	.017290	82,747	1,431	82,031	1,269,609	15.34	71	.012498	87,551	1,094	87,004	1,515,181	17.31
72	.019243	81,316	1,565	80,534	1,187,578	14.60	72	.013817	86,457	1,195	85,860	1,428,177	16.52
73	.021376	79,751	1,705	78,899	1,107,044	13.88	73	.015296	85,263	1,304	84,611	1,342,317	15.74
74	.023699	78,046	1,850	77,122	1,028,145	13.17	74	.016892	83,959	1,418	83,249	1,257,706	14.98
75	.026280	76,197	2,002	75,196	951,024	12.48	75	.018679	82,540	1,542	81,769	1,174,457	14.23
76	.029183	74,194	2,165	73,112	875,828	11.80	76	.020755	80,999	1,681	80,158	1,092,687	13.49
77	.032497	72,029	2,341	70,859	802,717	11.14	77	.023181	79,317	1,839	78,398	1,012,529	12.77
78	.036462	69,688	2,541	68,418	731,858	10.50	78	.026044	77,479	2,018	76,470	934,131	12.06
79	.040674	67,147	2,731	65,782	663,440	9.88	79	.029152	75,461	2,200	74,361	857,661	11.37
80	.045448	64,416	2,928	62,953	597,658	9.28	80	.032669	73,261	2,393	72,064	783,300	10.69
81	.050920	61,489	3,131	59,923	534,706	8.70	81	.036818	70,868	2,609	69,563	711,236	10.04
82	.057176	58,358	3,337	56,689	474,782	8.14	82	.041819	68,258	2,855	66,831	641,673	9.40
83	.064571	55,021	3,553	53,245	418,093	7.60	83	.048126	65,404	3,148	63,830	574,842	8.79
84	.072656	51,468	3,739	49,599	364,848	7.09	84	.055385	62,256	3,448	60,532	511,012	8.21
85	.081859	47,729	3,907	45,775	315,250	6.61	85	.063465	58,808	3,732	56,942	450,479	7.66
86	.092499	43,822	4,053	41,795	269,474	6.15	86	.072176	55,076	3,975	53,088	393,537	7.15
87	.103363	39,768	4,111	37,713	227,679	5.73	87	.081355	51,101	4,157	49,022	340,449	6.66
88	.114956	35,658	4,099	33,608	189,966	5.33	88	.091459	46,944	4,293	44,797	291,427	6.21
89	.126495	31,559	3,992	29,563	156,358	4.95	89	.101968	42,650	4,349	40,476	246,630	5.78
90	.139603	27,567	3,848	25,643	126,795	4.60	90	.113464	38,301	4,346	36,128	206,154	5.38
91	.153004	23,718	3,629	21,904	101,153	4.26	91	.124862	33,955	4,240	31,836	170,026	5.01
92	.167265	20,089	3,360	18,409	79,249	3.94	92	.136505	29,716	4,056	27,688	138,190	4.65
93	.185474	16,729	3,103	15,178	60,840	3.64	93	.151574	25,659	3,889	23,715	110,503	4.31
94	.205485	13,626	2,800	12,226	45,662	3.35	94	.167912	21,770	3,655	19,942	86,788	3.99
95	.227059	10,826	2,458	9,597	33,436	3.09	95	.185526	18,115	3,361	16,434	66,846	3.69
96	.250477	8,368	2,096	7,320	23,839	2.85	96	.204554	14,754	3,018	13,245	50,411	3.42
97	.275830	6,272	1,730	5,407	16,518	2.63	97	.224988	11,736	2,640	10,416	37,167	3.17
98	.297818	4,542	1,353	3,866	11,111	2.45	98	.244590	9,095	2,225	7,983	26,751	2.94
99	.321041	3,189	1,024	2,677	7,246	2.27	99	.265295	6,871	1,823	5,959	18,768	2.73
100	.345477	2,165	748	1,791	4,568	2.11	100	.287092	5,048	1,449	4,323	12,808	2.54
101	.371094	1,417	526	1,154	2,777	1.96	101	.309973	3,599	1,116	3,041	8,485	2.36
102	.397928	891	355	714	1,623	1.82	102	.333924	2,483	829	2,069	5,444	2.19
103	.425959	537	229	422	909	1.69	103	.358883	1,654	594	1,357	3,375	2.04
104	.455100	308	140	238	486	1.58	104	.384843	1,060	408	856	2,018	1.90
105	.485387	168	81	127	248	1.48	105	.411734	652	269	518	1,162	1.78
106	.507718	86	44	64	121	1.40	106	.435078	384	167	300	644	1.68
107	.529520	43	23	31	57	1.33	107	.458164	217	99	167	343	1.58
108	.550686	20	11	14	25	1.27	108	.480838	117	56	89	176	1.50
109	.571177	9	5	6	11	1.22	109	.502862	61	31	46	87	1.43
110	.588216	4	2	3	5	1.17	110	.522464	30	16	22	41	1.36
111	.604138	2	1	1	2	1.13	111	.540945	14	8	11	19	1.31
112	.618830	1	0	0	1	1.10	112	.558135	7	4	5	8	1.26
113	.632182	0	0	0	0	1.07	113	.573874	3	2	2	4	1.21
114	.644098	0	0	0	0	1.04	114	.588009	1	1	1	1	1.18
115	.654487	0	0	0	0	1.02	115	.600402	1	0	0	1	1.14
116	.663271	0	0	0	0	0.99	116	.610929	0	0	0	0	1.11
117	.670383	0	0	0	0	0.97	117	.619483	0	0	0	0	1.07
118	.675768	0	0	0	0	0.91	118	.625977	0	0	0	0	0.99
119	.679382	0	0	0	0	0.77	119	.630344	0	0	0	0	0.80
120	.681196	0	0	0	0	0.34	120	.632539	0	0	0	0	0.32

Calendar Year 2050

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.003297	100,000	330	99,736	8,301,941	83.02	0	.002836	100,000	284	99,773	8,604,786	86.05
1	.000178	99,670	18	99,661	8,202,205	82.29	1	.000188	99,716	19	99,707	8,505,013	85.29
2	.000086	99,653	9	99,648	8,102,544	81.31	2	.000097	99,698	10	99,693	8,405,305	84.31
3	.000091	99,644	9	99,639	8,002,895	80.31	3	.000071	99,688	7	99,684	8,305,613	83.32
4	.000093	99,635	9	99,630	7,903,256	79.32	4	.000054	99,681	5	99,678	8,205,928	82.32
5	.000082	99,626	8	99,622	7,803,626	78.33	5	.000040	99,676	4	99,674	8,106,250	81.33
6	.000063	99,618	6	99,614	7,704,004	77.34	6	.000031	99,672	3	99,670	8,006,577	80.33
7	.000044	99,611	4	99,609	7,604,390	76.34	7	.000027	99,669	3	99,667	7,906,907	79.33
8	.000039	99,607	4	99,605	7,504,780	75.34	8	.000029	99,666	3	99,664	7,807,239	78.33
9	.000039	99,603	4	99,601	7,405,176	74.35	9	.000031	99,663	3	99,661	7,707,575	77.34
10	.000048	99,599	5	99,597	7,305,574	73.35	10	.000042	99,660	4	99,658	7,607,914	76.34
11	.000046	99,594	5	99,592	7,205,978	72.35	11	.000045	99,656	4	99,653	7,508,256	75.34
12	.000068	99,590	7	99,586	7,106,386	71.36	12	.000069	99,651	7	99,648	7,408,602	74.35
13	.000105	99,583	10	99,578	7,006,799	70.36	13	.000088	99,644	9	99,640	7,308,955	73.35
14	.000157	99,573	16	99,565	6,907,221	69.37	14	.000113	99,636	11	99,630	7,209,315	72.36
15	.000215	99,557	21	99,546	6,807,656	68.38	15	.000138	99,624	14	99,618	7,109,685	71.36
16	.000268	99,536	27	99,522	6,708,110	67.39	16	.000165	99,611	16	99,602	7,010,067	70.37
17	.000313	99,509	31	99,493	6,608,588	66.41	17	.000186	99,594	19	99,585	6,910,465	69.39
18	.000346	99,478	34	99,461	6,509,094	65.43	18	.000200	99,576	20	99,566	6,810,880	68.40
19	.000381	99,443	38	99,424	6,409,634	64.46	19	.000207	99,556	21	99,545	6,711,314	67.41
20	.000407	99,406	40	99,385	6,310,209	63.48	20	.000207	99,535	21	99,525	6,611,769	66.43
21	.000427	99,365	42	99,344	6,210,824	62.51	21	.000209	99,514	21	99,504	6,512,244	65.44
22	.000444	99,323	44	99,301	6,111,480	61.53	22	.000209	99,494	21	99,483	6,412,740	64.45
23	.000438	99,279	44	99,257	6,012,179	60.56	23	.000200	99,473	20	99,463	6,313,257	63.47
24	.000421	99,235	42	99,214	5,912,923	59.59	24	.000199	99,453	20	99,443	6,213,794	62.48
25	.000406	99,193	40	99,173	5,813,709	58.61	25	.000198	99,433	20	99,423	6,114,351	61.49
26	.000392	99,153	39	99,134	5,714,535	57.63	26	.000197	99,414	20	99,404	6,014,928	60.50
27	.000380	99,114	38	99,095	5,615,402	56.66	27	.000194	99,394	19	99,384	5,915,524	59.52
28	.000390	99,076	39	99,057	5,516,307	55.68	28	.000209	99,375	21	99,364	5,816,139	58.53
29	.000399	99,038	40	99,018	5,417,249	54.70	29	.000224	99,354	22	99,343	5,716,775	57.54
30	.000419	98,998	41	98,978	5,318,231	53.72	30	.000239	99,332	24	99,320	5,617,432	56.55
31	.000431	98,957	43	98,935	5,219,254	52.74	31	.000261	99,308	26	99,295	5,518,113	55.57
32	.000456	98,914	45	98,892	5,120,318	51.77	32	.000288	99,282	29	99,268	5,418,818	54.58
33	.000483	98,869	48	98,845	5,021,427	50.79	33	.000314	99,253	31	99,238	5,319,550	53.60
34	.000516	98,821	51	98,796	4,922,582	49.81	34	.000347	99,222	34	99,205	5,220,312	52.61
35	.000551	98,770	54	98,743	4,823,786	48.84	35	.000385	99,188	38	99,169	5,121,107	51.63
36	.000591	98,716	58	98,687	4,725,043	47.87	36	.000426	99,150	42	99,129	5,021,938	50.65
37	.000639	98,658	63	98,626	4,626,356	46.89	37	.000469	99,108	47	99,084	4,922,809	49.67
38	.000706	98,594	70	98,560	4,527,730	45.92	38	.000508	99,061	50	99,036	4,823,725	48.69
39	.000775	98,525	76	98,487	4,429,170	44.95	39	.000549	99,011	54	98,984	4,724,689	47.72
40	.000859	98,449	85	98,406	4,330,684	43.99	40	.000596	98,956	59	98,927	4,625,706	46.74
41	.000953	98,364	94	98,317	4,232,277	43.03	41	.000642	98,897	64	98,866	4,526,779	45.77
42	.001062	98,270	104	98,218	4,133,960	42.07	42	.000706	98,834	70	98,799	4,427,913	44.80
43	.001168	98,166	115	98,109	4,035,742	41.11	43	.000764	98,764	75	98,726	4,329,114	43.83
44	.001279	98,051	125	97,988	3,937,634	40.16	44	.000822	98,689	81	98,648	4,230,388	42.87
45	.001401	97,926	137	97,857	3,839,645	39.21	45	.000883	98,608	87	98,564	4,131,739	41.90
46	.001535	97,789	150	97,713	3,741,788	38.26	46	.000958	98,520	94	98,473	4,033,175	40.94
47	.001681	97,638	164	97,556	3,644,075	37.32	47	.001038	98,426	102	98,375	3,934,702	39.98
48	.001815	97,474	177	97,386	3,546,518	36.38	48	.001146	98,324	113	98,268	3,836,327	39.02
49	.001957	97,297	190	97,202	3,449,132	35.45	49	.001259	98,211	124	98,149	3,738,060	38.06
50	.002112	97,107	205	97,004	3,351,930	34.52	50	.001387	98,088	136	98,020	3,639,910	37.11
51	.002290	96,902	222	96,791	3,254,926	33.59	51	.001533	97,952	150	97,876	3,541,891	36.16
52	.002504	96,680	242	96,559	3,158,135	32.67	52	.001695	97,801	166	97,718	3,444,014	35.21
53	.002756	96,438	266	96,305	3,061,576	31.75	53	.001883	97,636	184	97,544	3,346,296	34.27
54	.003042	96,172	293	96,026	2,965,271	30.83	54	.002093	97,452	204	97,350	3,248,752	33.34
55	.003345	95,880	321	95,719	2,869,245	29.93	55	.002321	97,248	226	97,135	3,151,403	32.41
56	.003686	95,559	352	95,383	2,773,526	29.02	56	.002570	97,022	249	96,897	3,054,268	31.48
57	.004065	95,207	387	95,013	2,678,143	28.13	57	.002838	96,773	275	96,635	2,957,370	30.56
58	.004487	94,820	425	94,607	2,583,130	27.24	58	.003127	96,498	302	96,347	2,860,735	29.65
59	.004927	94,394	465	94,162	2,488,523	26.36	59	.003418	96,196	329	96,032	2,764,388	28.74

Calendar Year 2050 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.005397	93,929	507	93,676	2,394,362	25.49	60	.003746	95,868	359	95,688	2,668,356	27.83
61	.005922	93,422	553	93,146	2,300,686	24.63	61	.004103	95,508	392	95,313	2,572,668	26.94
62	.006503	92,869	604	92,567	2,207,541	23.77	62	.004525	95,117	430	94,901	2,477,355	26.05
63	.007121	92,265	657	91,936	2,114,974	22.92	63	.004991	94,686	473	94,450	2,382,454	25.16
64	.007767	91,608	712	91,252	2,023,037	22.08	64	.005498	94,214	518	93,955	2,288,004	24.29
65	.008090	90,896	735	90,529	1,931,785	21.25	65	.005918	93,696	554	93,418	2,194,050	23.42
66	.008852	90,161	798	89,762	1,841,256	20.42	66	.006537	93,141	609	92,837	2,100,631	22.55
67	.009679	89,363	865	88,931	1,751,494	19.60	67	.007226	92,532	669	92,198	2,007,794	21.70
68	.010718	88,498	949	88,024	1,662,564	18.79	68	.007932	91,864	729	91,499	1,915,596	20.85
69	.011822	87,550	1,035	87,032	1,574,540	17.98	69	.008685	91,135	792	90,739	1,824,097	20.02
70	.013051	86,515	1,129	85,950	1,487,508	17.19	70	.009503	90,344	859	89,914	1,733,358	19.19
71	.014456	85,385	1,234	84,768	1,401,558	16.41	71	.010449	89,485	935	89,017	1,643,444	18.37
72	.016089	84,151	1,354	83,474	1,316,789	15.65	72	.011554	88,550	1,023	88,038	1,554,426	17.55
73	.017882	82,797	1,481	82,057	1,233,315	14.90	73	.012790	87,527	1,119	86,967	1,466,388	16.75
74	.019838	81,317	1,613	80,510	1,151,258	14.16	74	.014119	86,407	1,220	85,797	1,379,420	15.96
75	.022007	79,704	1,754	78,827	1,070,748	13.43	75	.015613	85,187	1,330	84,522	1,293,623	15.19
76	.024461	77,949	1,907	76,996	991,921	12.73	76	.017342	83,857	1,454	83,130	1,209,101	14.42
77	.027249	76,043	2,072	75,007	914,925	12.03	77	.019371	82,403	1,596	81,605	1,125,970	13.66
78	.030589	73,971	2,263	72,839	839,919	11.35	78	.021774	80,807	1,759	79,927	1,044,365	12.92
79	.034210	71,708	2,453	70,481	767,079	10.70	79	.024361	79,047	1,926	78,085	964,438	12.20
80	.038244	69,255	2,649	67,931	696,598	10.06	80	.027311	77,122	2,106	76,069	886,353	11.49
81	.042830	66,606	2,853	65,180	628,667	9.44	81	.030798	75,016	2,310	73,860	810,285	10.80
82	.048073	63,754	3,065	62,221	563,487	8.84	82	.034995	72,705	2,544	71,433	736,424	10.13
83	.054547	60,689	3,310	59,034	501,266	8.26	83	.040493	70,161	2,841	68,740	664,991	9.48
84	.061683	57,378	3,539	55,609	442,233	7.71	84	.046849	67,320	3,154	65,743	596,251	8.86
85	.069798	53,839	3,758	51,960	386,624	7.18	85	.053981	64,166	3,464	62,434	530,508	8.27
86	.079274	50,081	3,970	48,096	334,664	6.68	86	.061740	60,702	3,748	58,828	468,074	7.71
87	.089021	46,111	4,105	44,059	286,567	6.21	87	.070018	56,955	3,988	54,961	409,245	7.19
88	.100653	42,006	4,228	39,892	242,509	5.77	88	.080090	52,967	4,242	50,846	354,285	6.69
89	.112406	37,778	4,246	35,655	202,616	5.36	89	.090670	48,725	4,418	46,516	303,439	6.23
90	.126242	33,532	4,233	31,415	166,962	4.98	90	.102709	44,307	4,551	42,031	256,923	5.80
91	.138306	29,299	4,052	27,273	135,546	4.63	91	.113087	39,756	4,496	37,508	214,892	5.41
92	.151257	25,246	3,819	23,337	108,274	4.29	92	.123714	35,260	4,362	33,079	177,384	5.03
93	.167798	21,428	3,596	19,630	84,937	3.96	93	.137385	30,898	4,245	28,776	144,305	4.67
94	.185897	17,832	3,315	16,175	65,307	3.66	94	.152168	26,653	4,056	24,625	115,529	4.33
95	.205498	14,517	2,983	13,026	49,132	3.38	95	.168100	22,597	3,799	20,698	90,904	4.02
96	.226782	11,534	2,616	10,226	36,106	3.13	96	.185310	18,799	3,484	17,057	70,206	3.73
97	.249838	8,918	2,228	7,804	25,880	2.90	97	.203824	15,315	3,122	13,754	53,149	3.47
98	.269792	6,690	1,805	5,788	18,076	2.70	98	.221559	12,194	2,702	10,843	39,395	3.23
99	.290839	4,885	1,421	4,175	12,288	2.52	99	.240300	9,492	2,281	8,351	28,552	3.01
100	.312969	3,464	1,084	2,922	8,114	2.34	100	.260039	7,211	1,875	6,273	20,200	2.80
101	.336221	2,380	800	1,980	5,191	2.18	101	.280745	5,336	1,498	4,587	13,927	2.61
102	.360497	1,580	570	1,295	3,211	2.03	102	.302449	3,838	1,161	3,257	9,340	2.43
103	.385887	1,010	390	815	1,916	1.90	103	.325055	2,677	870	2,242	6,083	2.27
104	.412518	620	256	492	1,101	1.77	104	.348493	1,807	630	1,492	3,841	2.13
105	.439987	365	160	284	608	1.67	105	.372828	1,177	439	958	2,348	1.99
106	.460014	204	94	157	324	1.59	106	.394018	738	291	593	1,391	1.88
107	.479703	110	53	84	167	1.51	107	.414954	447	186	355	798	1.78
108	.498911	57	29	43	83	1.45	108	.435470	262	114	205	443	1.69
109	.517486	29	15	21	40	1.39	109	.455425	148	67	114	239	1.61
110	.532858	14	7	10	19	1.34	110	.473189	80	38	61	124	1.55
111	.547251	6	4	5	8	1.30	111	.489939	42	21	32	63	1.49
112	.560529	3	2	2	4	1.26	112	.505519	22	11	16	31	1.43
113	.572602	1	1	1	2	1.22	113	.519778	11	6	8	15	1.38
114	.583394	1	0	0	1	1.19	114	.532581	5	3	4	7	1.34
115	.592804	0	0	0	0	1.17	115	.543807	2	1	2	3	1.30
116	.600760	0	0	0	0	1.14	116	.553342	1	1	1	1	1.26
117	.607204	0	0	0	0	1.09	117	.561092	0	0	0	1	1.19
118	.612079	0	0	0	0	1.01	118	.566975	0	0	0	0	1.08
119	.615348	0	0	0	0	0.81	119	.570932	0	0	0	0	0.84
120	.616991	0	0	0	0	0.31	120	.572920	0	0	0	0	0.29

Appendix B Cohort Life Tables for Canada less Québec (23rd CPP Actuarial Report) Born in 1930

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.091663	100,000	9,166	92,667	6,669,870	66.70	0	.073030	100,000	7,303	94,158	7,366,342	73.66
1	.009522	90,834	865	90,401	6,577,203	72.41	1	.009088	92,697	842	92,276	7,272,184	78.45
2	.004527	89,969	407	89,765	6,486,802	72.10	2	.003561	91,855	327	91,691	7,179,908	78.17
3	.003141	89,562	281	89,421	6,397,037	71.43	3	.002629	91,528	241	91,407	7,088,217	77.44
4	.002348	89,280	210	89,175	6,307,616	70.65	4	.001894	91,287	173	91,201	6,996,810	76.65
5	.002061	89,071	184	88,979	6,218,440	69.81	5	.001635	91,114	149	91,040	6,905,610	75.79
6	.002049	88,887	182	88,796	6,129,462	68.96	6	.001836	90,965	167	90,882	6,814,570	74.91
7	.001952	88,705	173	88,618	6,040,666	68.10	7	.001486	90,798	135	90,731	6,723,688	74.05
8	.001125	88,532	100	88,482	5,952,047	67.23	8	.001034	90,663	94	90,616	6,632,958	73.16
9	.001155	88,432	102	88,381	5,863,566	66.31	9	.000939	90,569	85	90,527	6,542,341	72.24
10	.001230	88,330	109	88,276	5,775,185	65.38	10	.001161	90,484	105	90,432	6,451,814	71.30
11	.001361	88,221	120	88,161	5,686,909	64.46	11	.000665	90,379	60	90,349	6,361,382	70.39
12	.001136	88,101	100	88,051	5,598,748	63.55	12	.000795	90,319	72	90,283	6,271,033	69.43
13	.001193	88,001	105	87,949	5,510,697	62.62	13	.000805	90,247	73	90,211	6,180,750	68.49
14	.001241	87,896	109	87,842	5,422,748	61.69	14	.000792	90,175	71	90,139	6,090,539	67.54
15	.001454	87,787	128	87,723	5,334,907	60.77	15	.000906	90,103	82	90,063	6,000,399	66.59
16	.001249	87,659	109	87,605	5,247,183	59.86	16	.001010	90,022	91	89,976	5,910,337	65.65
17	.001581	87,550	138	87,481	5,159,579	58.93	17	.001154	89,931	104	89,879	5,820,361	64.72
18	.001617	87,412	141	87,341	5,072,098	58.03	18	.000889	89,827	80	89,787	5,730,482	63.79
19	.001895	87,270	165	87,187	4,984,757	57.12	19	.001016	89,747	91	89,702	5,640,695	62.85
20	.001899	87,105	165	87,022	4,897,570	56.23	20	.000945	89,656	85	89,614	5,550,993	61.91
21	.001801	86,939	157	86,861	4,810,548	55.33	21	.000830	89,571	74	89,534	5,461,379	60.97
22	.001865	86,783	162	86,702	4,723,686	54.43	22	.000799	89,497	72	89,461	5,371,845	60.02
23	.002045	86,621	177	86,532	4,636,985	53.53	23	.000846	89,425	76	89,388	5,282,384	59.07
24	.001613	86,444	139	86,374	4,550,452	52.64	24	.000701	89,350	63	89,318	5,192,996	58.12
25	.001376	86,304	119	86,245	4,464,078	51.72	25	.000934	89,287	83	89,245	5,103,678	57.16
26	.001866	86,186	161	86,105	4,377,833	50.80	26	.000875	89,204	78	89,165	5,014,432	56.21
27	.001565	86,025	135	85,957	4,291,728	49.89	27	.000741	89,126	66	89,093	4,925,267	55.26
28	.001639	85,890	141	85,820	4,205,771	48.97	28	.000709	89,060	63	89,028	4,836,175	54.30
29	.001611	85,749	138	85,680	4,119,951	48.05	29	.000949	88,996	84	88,954	4,747,147	53.34
30	.001756	85,611	150	85,536	4,034,271	47.12	30	.000861	88,912	77	88,874	4,658,192	52.39
31	.001527	85,461	131	85,396	3,948,735	46.21	31	.000773	88,835	69	88,801	4,569,319	51.44
32	.001694	85,330	145	85,258	3,863,339	45.28	32	.000987	88,767	88	88,723	4,480,518	50.48
33	.001760	85,186	150	85,111	3,778,081	44.35	33	.000932	88,679	83	88,638	4,391,794	49.52
34	.001892	85,036	161	84,955	3,692,970	43.43	34	.001048	88,597	93	88,550	4,303,157	48.57
35	.001930	84,875	164	84,793	3,608,015	42.51	35	.001164	88,504	103	88,452	4,214,606	47.62
36	.001931	84,711	164	84,629	3,523,221	41.59	36	.001174	88,401	104	88,349	4,126,154	46.68
37	.002091	84,548	177	84,459	3,438,592	40.67	37	.001282	88,297	113	88,240	4,037,805	45.73
38	.002289	84,371	193	84,274	3,354,133	39.75	38	.001402	88,184	124	88,122	3,949,565	44.79
39	.002524	84,178	212	84,072	3,269,858	38.84	39	.001539	88,060	136	87,992	3,861,443	43.85
40	.002797	83,965	235	83,848	3,185,787	37.94	40	.001698	87,924	149	87,850	3,773,451	42.92
41	.003103	83,730	260	83,601	3,101,939	37.05	41	.001876	87,775	165	87,693	3,685,601	41.99
42	.003364	83,471	281	83,330	3,018,338	36.16	42	.001997	87,611	175	87,523	3,597,908	41.07
43	.003632	83,190	302	83,039	2,935,008	35.28	43	.002133	87,436	187	87,342	3,510,385	40.15
44	.003931	82,888	326	82,725	2,851,969	34.41	44	.002292	87,249	200	87,149	3,423,043	39.23
45	.004308	82,562	356	82,384	2,769,245	33.54	45	.002486	87,049	216	86,941	3,335,894	38.32
46	.004718	82,206	388	82,012	2,686,861	32.68	46	.002714	86,833	236	86,715	3,248,953	37.42
47	.005038	81,818	412	81,612	2,604,848	31.84	47	.002868	86,597	248	86,473	3,162,238	36.52
48	.005387	81,406	438	81,187	2,523,236	31.00	48	.003037	86,349	262	86,217	3,075,766	35.62
49	.005751	80,968	466	80,735	2,442,049	30.16	49	.003214	86,086	277	85,948	2,989,548	34.73
50	.006153	80,502	495	80,254	2,361,314	29.33	50	.003429	85,810	294	85,663	2,903,600	33.84
51	.006600	80,007	528	79,743	2,281,060	28.51	51	.003684	85,515	315	85,358	2,817,937	32.95
52	.007076	79,479	562	79,197	2,201,318	27.70	52	.003956	85,200	337	85,032	2,732,580	32.07
53	.007600	78,916	600	78,616	2,122,120	26.89	53	.004240	84,863	360	84,683	2,647,548	31.20
54	.008152	78,316	638	77,997	2,043,504	26.09	54	.004531	84,503	383	84,312	2,562,864	30.33
55	.008759	77,678	680	77,338	1,965,507	25.30	55	.004820	84,121	405	83,918	2,478,552	29.46
56	.009404	76,998	724	76,636	1,888,169	24.52	56	.005151	83,715	431	83,499	2,394,635	28.60
57	.010087	76,273	769	75,889	1,811,534	23.75	57	.005546	83,284	462	83,053	2,311,135	27.75
58	.010823	75,504	817	75,096	1,735,645	22.99	58	.005960	82,822	494	82,575	2,228,082	26.90
59	.011635	74,687	869	74,252	1,660,549	22.23	59	.006386	82,328	526	82,065	2,145,507	26.06

Born in 1930 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.012546	73,818	926	73,355	1,586,297	21.49	60	.006835	81,803	559	81,523	2,063,442	25.22
61	.013574	72,892	989	72,397	1,512,942	20.76	61	.007322	81,244	595	80,946	1,981,919	24.39
62	.014599	71,902	1,050	71,378	1,440,545	20.03	62	.007969	80,649	643	80,327	1,900,972	23.57
63	.015686	70,853	1,111	70,297	1,369,167	19.32	63	.008668	80,006	693	79,659	1,820,645	22.76
64	.016879	69,741	1,177	69,153	1,298,870	18.62	64	.009410	79,312	746	78,939	1,740,986	21.95
65	.018208	68,564	1,248	67,940	1,229,717	17.94	65	.010226	78,566	803	78,164	1,662,047	21.15
66	.019731	67,316	1,328	66,652	1,161,777	17.26	66	.011142	77,763	866	77,330	1,583,882	20.37
67	.021173	65,988	1,397	65,289	1,095,126	16.60	67	.012055	76,896	927	76,433	1,506,553	19.59
68	.022644	64,590	1,463	63,859	1,029,837	15.94	68	.013023	75,969	989	75,475	1,430,120	18.82
69	.024103	63,128	1,522	62,367	965,977	15.30	69	.014037	74,980	1,052	74,454	1,354,645	18.07
70	.025625	61,606	1,579	60,817	903,610	14.67	70	.015151	73,928	1,120	73,367	1,280,191	17.32
71	.027314	60,028	1,640	59,208	842,793	14.04	71	.016450	72,807	1,198	72,209	1,206,824	16.58
72	.029268	58,388	1,709	57,534	783,585	13.42	72	.017853	71,610	1,278	70,971	1,134,615	15.84
73	.031386	56,679	1,779	55,790	726,052	12.81	73	.019359	70,331	1,362	69,651	1,063,645	15.12
74	.033590	54,900	1,844	53,978	670,262	12.21	74	.020940	68,970	1,444	68,248	993,994	14.41
75	.036304	53,056	1,926	52,093	616,284	11.62	75	.022887	67,526	1,545	66,753	925,746	13.71
76	.039326	51,130	2,011	50,125	564,191	11.03	76	.025128	65,980	1,658	65,151	858,993	13.02
77	.042718	49,119	2,098	48,070	514,066	10.47	77	.027743	64,322	1,784	63,430	793,842	12.34
78	.046485	47,021	2,186	45,928	465,996	9.91	78	.030648	62,538	1,917	61,579	730,412	11.68
79	.050514	44,835	2,265	43,703	420,068	9.37	79	.033731	60,621	2,045	59,599	668,833	11.03
80	.055026	42,570	2,342	41,399	376,365	8.84	80	.037240	58,576	2,181	57,486	609,234	10.40
81	.060177	40,228	2,421	39,018	334,966	8.33	81	.041414	56,395	2,336	55,227	551,749	9.78
82	.066130	37,807	2,500	36,557	295,948	7.83	82	.046458	54,059	2,511	52,804	496,521	9.18
83	.072960	35,307	2,576	34,019	259,391	7.35	83	.052678	51,548	2,715	50,190	443,718	8.61
84	.080415	32,731	2,632	31,415	225,372	6.89	84	.059829	48,832	2,922	47,372	393,528	8.06
85	.088921	30,099	2,676	28,761	193,957	6.44	85	.067749	45,911	3,110	44,356	346,156	7.54
86	.098892	27,422	2,712	26,067	165,197	6.02	86	.076234	42,800	3,263	41,169	301,800	7.05
87	.108990	24,711	2,693	23,364	139,130	5.63	87	.085108	39,538	3,365	37,855	260,631	6.59
88	.119897	22,017	2,640	20,697	115,766	5.26	88	.094783	36,173	3,429	34,458	222,776	6.16
89	.130735	19,378	2,533	18,111	95,069	4.91	89	.104815	32,744	3,432	31,028	188,318	5.75
90	.143054	16,844	2,410	15,639	76,958	4.57	90	.115755	29,312	3,393	27,615	157,290	5.37
91	.155936	14,435	2,251	13,309	61,318	4.25	91	.126829	25,919	3,287	24,275	129,675	5.00
92	.169700	12,184	2,068	11,150	48,009	3.94	92	.138081	22,632	3,125	21,069	105,399	4.66
93	.187170	10,116	1,893	9,169	36,859	3.64	93	.152740	19,507	2,979	18,017	84,330	4.32
94	.206288	8,223	1,696	7,375	27,690	3.37	94	.168509	16,527	2,785	15,135	66,313	4.01
95	.227059	6,526	1,482	5,786	20,315	3.11	95	.185526	13,742	2,550	12,467	51,178	3.72
96	.249577	5,045	1,259	4,415	14,529	2.88	96	.203821	11,193	2,281	10,052	38,711	3.46
97	.273900	3,786	1,037	3,267	10,114	2.67	97	.223408	8,911	1,991	7,916	28,659	3.22
98	.294637	2,749	810	2,344	6,847	2.49	98	.241935	6,921	1,674	6,083	20,743	3.00
99	.316334	1,939	613	1,632	4,503	2.32	99	.261361	5,246	1,371	4,561	14,659	2.79
100	.339054	1,326	449	1,101	2,871	2.17	100	.281698	3,875	1,092	3,329	10,099	2.61
101	.362777	876	318	717	1,771	2.02	101	.302927	2,783	843	2,362	6,770	2.43
102	.387474	558	216	450	1,053	1.89	102	.325028	1,940	631	1,625	4,408	2.27
103	.413115	342	141	271	603	1.76	103	.347923	1,310	456	1,082	2,783	2.12
104	.439657	201	88	157	332	1.65	104	.371590	854	317	695	1,701	1.99
105	.467042	112	53	86	175	1.56	105	.395963	537	212	430	1,006	1.87
106	.486425	60	29	45	89	1.49	106	.416775	324	135	257	575	1.77
107	.505249	31	16	23	44	1.42	107	.437155	189	83	148	319	1.69
108	.523390	15	8	11	21	1.37	108	.456938	106	49	82	171	1.61
109	.540727	7	4	5	10	1.32	109	.475957	58	28	44	89	1.54
110	.554609	3	2	2	4	1.27	110	.492539	30	15	23	45	1.48
111	.567327	1	1	1	2	1.24	111	.507929	15	8	11	22	1.42
112	.578787	1	0	0	1	1.21	112	.521980	8	4	6	10	1.38
113	.588904	0	0	0	0	1.18	113	.534558	4	2	3	5	1.34
114	.597599	0	0	0	0	1.16	114	.545539	2	1	1	2	1.31
115	.604807	0	0	0	0	1.14	115	.554812	1	0	1	1	1.27
116	.610471	0	0	0	0	1.11	116	.562284	0	0	0	0	1.24
117	.614547	0	0	0	0	1.08	117	.567879	0	0	0	0	1.18
118	.617003	0	0	0	0	1.00	118	.571538	0	0	0	0	1.07
119	.617820	0	0	0	0	0.81	119	.573224	0	0	0	0	0.84
120	.616991	0	0	0	0	0.31	120	.572920	0	0	0	0	0.29

Born in 1940

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.060918	100,000	6,092	95,127	7,187,692	71.88	0	.049349	100,000	4,935	96,052	7,763,423	77.63
1	.005733	93,908	538	93,639	7,092,565	75.53	1	.005646	95,065	537	94,797	7,667,371	80.65
2	.003614	93,370	337	93,201	6,998,926	74.96	2	.003004	94,528	284	94,386	7,572,575	80.11
3	.002616	93,032	243	92,911	6,905,725	74.23	3	.002134	94,244	201	94,144	7,478,188	79.35
4	.001767	92,789	164	92,707	6,812,814	73.42	4	.001546	94,043	145	93,971	7,384,044	78.52
5	.001615	92,625	150	92,550	6,720,107	72.55	5	.001163	93,898	109	93,843	7,290,074	77.64
6	.001339	92,475	124	92,413	6,627,557	71.67	6	.001024	93,789	96	93,741	7,196,230	76.73
7	.001275	92,352	118	92,293	6,535,144	70.76	7	.000865	93,693	81	93,652	7,102,490	75.81
8	.001043	92,234	96	92,186	6,442,851	69.85	8	.000565	93,612	53	93,585	7,008,837	74.87
9	.000772	92,138	71	92,102	6,350,665	68.93	9	.000465	93,559	43	93,537	6,915,252	73.91
10	.000709	92,066	65	92,034	6,258,563	67.98	10	.000450	93,515	42	93,494	6,821,715	72.95
11	.000786	92,001	72	91,965	6,166,529	67.03	11	.000430	93,473	40	93,453	6,728,221	71.98
12	.000788	91,929	72	91,893	6,074,564	66.08	12	.000468	93,433	44	93,411	6,634,767	71.01
13	.000763	91,856	70	91,821	5,982,672	65.13	13	.000357	93,389	33	93,373	6,541,356	70.04
14	.000740	91,786	68	91,752	5,890,851	64.18	14	.000333	93,356	31	93,341	6,447,983	69.07
15	.000703	91,718	64	91,686	5,799,098	63.23	15	.000329	93,325	31	93,310	6,354,643	68.09
16	.001061	91,654	97	91,605	5,707,412	62.27	16	.000567	93,294	53	93,268	6,261,333	67.11
17	.001308	91,557	120	91,497	5,615,807	61.34	17	.000581	93,241	54	93,214	6,168,066	66.15
18	.001335	91,437	122	91,376	5,524,310	60.42	18	.000548	93,187	51	93,162	6,074,851	65.19
19	.001327	91,315	121	91,254	5,432,934	59.50	19	.000669	93,136	62	93,105	5,981,690	64.23
20	.001692	91,194	154	91,117	5,341,680	58.58	20	.000419	93,074	39	93,054	5,888,585	63.27
21	.001869	91,039	170	90,954	5,250,563	57.67	21	.000576	93,035	54	93,008	5,795,531	62.29
22	.001695	90,869	154	90,792	5,159,609	56.78	22	.000682	92,981	63	92,949	5,702,523	61.33
23	.001866	90,715	169	90,631	5,068,817	55.88	23	.000612	92,918	57	92,889	5,609,573	60.37
24	.001970	90,546	178	90,457	4,978,186	54.98	24	.000500	92,861	46	92,838	5,516,684	59.41
25	.001403	90,368	127	90,304	4,887,729	54.09	25	.000630	92,815	58	92,785	5,423,846	58.44
26	.001546	90,241	139	90,171	4,797,425	53.16	26	.000580	92,756	54	92,729	5,331,061	57.47
27	.001482	90,101	134	90,034	4,707,254	52.24	27	.000605	92,702	56	92,674	5,238,332	56.51
28	.001447	89,968	130	89,903	4,617,220	51.32	28	.000641	92,646	59	92,616	5,145,658	55.54
29	.001430	89,838	128	89,773	4,527,317	50.39	29	.000687	92,587	64	92,555	5,053,041	54.58
30	.001436	89,709	129	89,645	4,437,544	49.47	30	.000743	92,523	69	92,489	4,960,486	53.61
31	.001466	89,580	131	89,515	4,347,899	48.54	31	.000808	92,454	75	92,417	4,867,997	52.65
32	.001502	89,449	134	89,382	4,258,385	47.61	32	.000842	92,380	78	92,341	4,775,580	51.70
33	.001551	89,315	139	89,245	4,169,003	46.68	33	.000878	92,302	81	92,261	4,683,239	50.74
34	.001619	89,176	144	89,104	4,079,758	45.75	34	.000922	92,221	85	92,178	4,590,978	49.78
35	.001735	89,032	154	88,954	3,990,654	44.82	35	.001005	92,136	93	92,090	4,498,800	48.83
36	.001863	88,877	166	88,794	3,901,699	43.90	36	.001079	92,043	99	91,994	4,406,710	47.88
37	.001936	88,712	172	88,626	3,812,905	42.98	37	.001141	91,944	105	91,892	4,314,716	46.93
38	.002014	88,540	178	88,451	3,724,279	42.06	38	.001208	91,839	111	91,784	4,222,825	45.98
39	.002096	88,362	185	88,269	3,635,828	41.15	39	.001275	91,728	117	91,670	4,131,041	45.04
40	.002188	88,176	193	88,080	3,547,559	40.23	40	.001355	91,611	124	91,549	4,039,371	44.09
41	.002302	87,983	203	87,882	3,459,480	39.32	41	.001450	91,487	133	91,421	3,947,822	43.15
42	.002482	87,781	218	87,672	3,371,597	38.41	42	.001554	91,354	142	91,283	3,856,402	42.21
43	.002671	87,563	234	87,446	3,283,925	37.50	43	.001664	91,213	152	91,137	3,765,118	41.28
44	.002857	87,329	249	87,204	3,196,479	36.60	44	.001785	91,061	163	90,979	3,673,981	40.35
45	.003069	87,080	267	86,946	3,109,275	35.71	45	.001910	90,898	174	90,811	3,583,002	39.42
46	.003262	86,812	283	86,671	3,022,329	34.81	46	.002048	90,725	186	90,632	3,492,191	38.49
47	.003540	86,529	307	86,376	2,935,658	33.93	47	.002213	90,539	200	90,439	3,401,559	37.57
48	.003858	86,222	333	86,056	2,849,283	33.05	48	.002403	90,338	217	90,230	3,311,120	36.65
49	.004162	85,890	357	85,711	2,763,227	32.17	49	.002594	90,121	234	90,004	3,220,891	35.74
50	.004466	85,532	382	85,341	2,677,516	31.30	50	.002786	89,888	250	89,762	3,130,886	34.83
51	.004793	85,150	408	84,946	2,592,175	30.44	51	.002995	89,637	268	89,503	3,041,124	33.93
52	.005247	84,742	445	84,520	2,507,229	29.59	52	.003241	89,369	290	89,224	2,951,621	33.03
53	.005724	84,297	482	84,056	2,422,709	28.74	53	.003502	89,079	312	88,923	2,862,397	32.13
54	.006193	83,815	519	83,555	2,338,653	27.90	54	.003805	88,767	338	88,598	2,773,474	31.24
55	.006670	83,296	556	83,018	2,255,097	27.07	55	.004133	88,429	366	88,247	2,684,876	30.36
56	.007182	82,740	594	82,443	2,172,079	26.25	56	.004516	88,064	398	87,865	2,596,629	29.49
57	.007764	82,146	638	81,827	2,089,636	25.44	57	.004876	87,666	427	87,452	2,508,764	28.62
58	.008416	81,508	686	81,165	2,007,809	24.63	58	.005232	87,239	456	87,010	2,421,312	27.76
59	.009105	80,822	736	80,454	1,926,644	23.84	59	.005595	86,782	486	86,539	2,334,302	26.90

Born in 1940 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.009827	80,086	787	79,693	1,846,190	23.05	60	.005997	86,297	518	86,038	2,247,762	26.05
61	.010624	79,299	842	78,878	1,766,497	22.28	61	.006432	85,779	552	85,503	2,161,724	25.20
62	.011551	78,457	906	78,004	1,687,619	21.51	62	.006967	85,227	594	84,931	2,076,221	24.36
63	.012550	77,550	973	77,064	1,609,616	20.76	63	.007559	84,634	640	84,314	1,991,290	23.53
64	.013574	76,577	1,039	76,057	1,532,552	20.01	64	.008188	83,994	688	83,650	1,906,976	22.70
65	.013843	75,538	1,046	75,015	1,456,495	19.28	65	.008693	83,306	724	82,944	1,823,326	21.89
66	.014851	74,492	1,106	73,939	1,381,480	18.55	66	.009453	82,582	781	82,192	1,740,382	21.07
67	.015935	73,386	1,169	72,801	1,307,541	17.82	67	.010305	81,801	843	81,380	1,658,191	20.27
68	.017133	72,216	1,237	71,598	1,234,740	17.10	68	.011192	80,958	906	80,505	1,576,811	19.48
69	.018369	70,979	1,304	70,327	1,163,142	16.39	69	.012118	80,052	970	79,567	1,496,305	18.69
70	.019745	69,675	1,376	68,987	1,092,815	15.68	70	.013121	79,082	1,038	78,564	1,416,738	17.91
71	.021324	68,300	1,456	67,571	1,023,828	14.99	71	.014279	78,045	1,114	77,488	1,338,174	17.15
72	.023187	66,843	1,550	66,068	956,256	14.31	72	.015626	76,930	1,202	76,329	1,260,687	16.39
73	.025233	65,293	1,648	64,469	890,188	13.63	73	.017110	75,728	1,296	75,080	1,184,358	15.64
74	.027439	63,646	1,746	62,773	825,718	12.97	74	.018693	74,432	1,391	73,737	1,109,277	14.90
75	.029872	61,899	1,849	60,975	762,946	12.33	75	.020459	73,041	1,494	72,294	1,035,541	14.18
76	.032611	60,050	1,958	59,071	701,971	11.69	76	.022499	71,547	1,610	70,742	963,247	13.46
77	.035711	58,092	2,075	57,055	642,900	11.07	77	.024887	69,937	1,741	69,067	892,505	12.76
78	.039401	56,017	2,207	54,914	585,845	10.46	78	.027660	68,197	1,886	67,253	823,438	12.07
79	.043395	53,810	2,335	52,643	530,931	9.87	79	.030619	66,310	2,030	65,295	756,184	11.40
80	.047860	51,475	2,464	50,243	478,289	9.29	80	.033983	64,280	2,184	63,188	690,889	10.75
81	.052940	49,012	2,595	47,714	428,045	8.73	81	.037971	62,095	2,358	60,917	627,702	10.11
82	.058785	46,417	2,729	45,053	380,331	8.19	82	.042775	59,738	2,555	58,460	566,785	9.49
83	.065704	43,688	2,871	42,253	335,278	7.67	83	.048813	57,182	2,791	55,787	508,325	8.89
84	.073266	40,818	2,991	39,323	293,025	7.18	84	.055759	54,391	3,033	52,875	452,538	8.32
85	.081859	37,827	3,097	36,279	253,703	6.71	85	.063465	51,358	3,259	49,729	399,664	7.78
86	.091871	34,731	3,191	33,135	217,424	6.26	86	.071737	48,099	3,450	46,374	349,935	7.28
87	.102030	31,540	3,218	29,931	184,288	5.84	87	.080400	44,648	3,590	42,854	303,561	6.80
88	.112994	28,322	3,200	26,722	154,357	5.45	88	.090032	41,059	3,697	39,210	260,708	6.35
89	.123953	25,122	3,114	23,565	127,635	5.08	89	.100070	37,362	3,739	35,493	221,497	5.93
90	.136597	22,008	3,006	20,505	104,071	4.73	90	.111202	33,623	3,739	31,754	186,005	5.53
91	.149095	19,002	2,833	17,585	83,566	4.40	91	.121899	29,884	3,643	28,063	154,251	5.16
92	.162423	16,169	2,626	14,856	65,981	4.08	92	.132749	26,241	3,484	24,500	126,188	4.81
93	.179519	13,542	2,431	12,327	51,125	3.78	93	.146891	22,758	3,343	21,086	101,688	4.47
94	.198101	11,111	2,201	10,011	38,798	3.49	94	.162059	19,415	3,146	17,842	80,602	4.15
95	.218182	8,910	1,944	7,938	28,787	3.23	95	.178387	16,269	2,902	14,818	62,760	3.86
96	.239870	6,966	1,671	6,131	20,849	2.99	96	.195917	13,366	2,619	12,057	47,943	3.59
97	.263250	5,295	1,394	4,598	14,719	2.78	97	.214677	10,748	2,307	9,594	35,885	3.34
98	.283129	3,901	1,105	3,349	10,120	2.59	98	.232433	8,440	1,962	7,460	26,291	3.11
99	.303981	2,797	850	2,372	6,772	2.42	99	.251096	6,479	1,627	5,665	18,832	2.91
100	.325815	1,947	634	1,629	4,400	2.26	100	.270634	4,852	1,313	4,195	13,166	2.71
101	.348611	1,312	457	1,084	2,771	2.11	101	.291029	3,539	1,030	3,024	8,971	2.54
102	.372340	855	318	696	1,687	1.97	102	.312261	2,509	783	2,117	5,947	2.37
103	.396974	537	213	430	991	1.85	103	.334256	1,725	577	1,437	3,830	2.22
104	.422471	324	137	255	561	1.73	104	.356994	1,149	410	944	2,393	2.08
105	.448774	187	84	145	306	1.64	105	.380409	739	281	598	1,449	1.96
106	.467387	103	48	79	161	1.56	106	.400402	458	183	366	851	1.86
107	.485462	55	27	42	82	1.50	107	.419982	274	115	217	485	1.77
108	.502882	28	14	21	41	1.44	108	.438987	159	70	124	268	1.69
109	.519529	14	7	10	19	1.39	109	.457259	89	41	69	144	1.61
110	.532858	7	4	5	9	1.34	110	.473189	48	23	37	75	1.55
111	.545070	3	2	2	4	1.31	111	.487974	26	12	19	38	1.50
112	.556074	1	1	1	2	1.28	112	.501474	13	7	10	19	1.45
113	.565788	1	0	0	1	1.25	113	.513557	7	3	5	9	1.41
114	.574136	0	0	0	0	1.22	114	.524106	3	2	2	4	1.37
115	.581057	0	0	0	0	1.20	115	.533015	2	1	1	2	1.34
116	.586494	0	0	0	0	1.17	116	.540193	1	0	1	1	1.30
117	.590407	0	0	0	0	1.13	117	.545568	0	0	0	0	1.23
118	.592765	0	0	0	0	1.04	118	.549084	0	0	0	0	1.11
119	.593548	0	0	0	0	0.82	119	.550704	0	0	0	0	0.85
120	.592751	0	0	0	0	0.30	120	.550412	0	0	0	0	0.28

Born in 1950

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.041052	100,000	4,105	96,716	7,566,800	75.67	0	.031501	100,000	3,150	97,480	8,086,289	80.86
1	.002905	95,895	279	95,756	7,470,084	77.90	1	.002678	96,850	259	96,720	7,988,809	82.49
2	.001560	95,616	149	95,542	7,374,329	77.12	2	.001674	96,591	162	96,510	7,892,089	81.71
3	.001248	95,467	119	95,408	7,278,787	76.24	3	.001041	96,429	100	96,379	7,795,580	80.84
4	.000987	95,348	94	95,301	7,183,380	75.34	4	.000694	96,328	67	96,295	7,699,201	79.93
5	.000864	95,254	82	95,213	7,088,079	74.41	5	.000490	96,262	47	96,238	7,602,906	78.98
6	.000760	95,172	72	95,135	6,992,866	73.48	6	.000385	96,214	37	96,196	7,506,668	78.02
7	.000637	95,099	61	95,069	6,897,731	72.53	7	.000384	96,177	37	96,159	7,410,472	77.05
8	.000511	95,039	49	95,014	6,802,662	71.58	8	.000381	96,140	37	96,122	7,314,313	76.08
9	.000567	94,990	54	94,963	6,707,647	70.61	9	.000382	96,104	37	96,085	7,218,191	75.11
10	.000433	94,936	41	94,916	6,612,684	69.65	10	.000270	96,067	26	96,054	7,122,105	74.14
11	.000461	94,895	44	94,873	6,517,769	68.68	11	.000231	96,041	22	96,030	7,026,051	73.16
12	.000543	94,851	52	94,826	6,422,895	67.72	12	.000276	96,019	27	96,006	6,930,021	72.17
13	.000475	94,800	45	94,777	6,328,070	66.75	13	.000267	95,992	26	95,980	6,834,015	71.19
14	.000473	94,755	45	94,732	6,233,293	65.78	14	.000351	95,967	34	95,950	6,738,036	70.21
15	.000703	94,710	67	94,677	6,138,560	64.81	15	.000350	95,933	34	95,916	6,642,086	69.24
16	.001114	94,643	105	94,591	6,043,884	63.86	16	.000455	95,900	44	95,878	6,546,169	68.26
17	.001297	94,538	123	94,477	5,949,293	62.93	17	.000498	95,856	48	95,832	6,450,291	67.29
18	.001456	94,415	137	94,347	5,854,816	62.01	18	.000523	95,808	50	95,783	6,354,459	66.32
19	.001596	94,278	150	94,203	5,760,470	61.10	19	.000532	95,758	51	95,733	6,258,676	65.36
20	.001628	94,127	153	94,051	5,666,267	60.20	20	.000516	95,707	49	95,683	6,162,943	64.39
21	.001683	93,974	158	93,895	5,572,216	59.30	21	.000508	95,658	49	95,633	6,067,261	63.43
22	.001707	93,816	160	93,736	5,478,321	58.39	22	.000512	95,609	49	95,585	5,971,627	62.46
23	.001679	93,656	157	93,577	5,384,585	57.49	23	.000517	95,560	49	95,536	5,876,043	61.49
24	.001607	93,499	150	93,423	5,291,008	56.59	24	.000519	95,511	50	95,486	5,780,507	60.52
25	.001543	93,348	144	93,276	5,197,585	55.68	25	.000528	95,461	50	95,436	5,685,021	59.55
26	.001456	93,204	136	93,136	5,104,308	54.76	26	.000515	95,411	49	95,386	5,589,585	58.58
27	.001383	93,069	129	93,004	5,011,172	53.84	27	.000520	95,362	50	95,337	5,494,199	57.61
28	.001339	92,940	124	92,878	4,918,168	52.92	28	.000544	95,312	52	95,286	5,398,862	56.64
29	.001303	92,815	121	92,755	4,825,290	51.99	29	.000560	95,260	53	95,234	5,303,576	55.67
30	.001268	92,694	118	92,636	4,732,536	51.06	30	.000576	95,207	55	95,179	5,208,342	54.71
31	.001242	92,577	115	92,519	4,639,900	50.12	31	.000592	95,152	56	95,124	5,113,163	53.74
32	.001256	92,462	116	92,404	4,547,381	49.18	32	.000613	95,096	58	95,067	5,018,039	52.77
33	.001287	92,346	119	92,286	4,454,977	48.24	33	.000637	95,037	61	95,007	4,922,972	51.80
34	.001310	92,227	121	92,166	4,362,691	47.30	34	.000662	94,977	63	94,945	4,827,965	50.83
35	.001364	92,106	126	92,043	4,270,524	46.37	35	.000699	94,914	66	94,881	4,733,020	49.87
36	.001395	91,980	128	91,916	4,178,481	45.43	36	.000720	94,848	68	94,813	4,638,139	48.90
37	.001501	91,852	138	91,783	4,086,565	44.49	37	.000796	94,779	75	94,742	4,543,325	47.94
38	.001623	91,714	149	91,640	3,994,782	43.56	38	.000875	94,704	83	94,662	4,448,584	46.97
39	.001739	91,565	159	91,486	3,903,143	42.63	39	.000943	94,621	89	94,576	4,353,921	46.01
40	.001832	91,406	167	91,322	3,811,657	41.70	40	.000991	94,532	94	94,485	4,259,345	45.06
41	.001932	91,239	176	91,150	3,720,335	40.78	41	.001045	94,438	99	94,389	4,164,860	44.10
42	.002068	91,062	188	90,968	3,629,184	39.85	42	.001158	94,339	109	94,285	4,070,471	43.15
43	.002238	90,874	203	90,772	3,538,216	38.94	43	.001284	94,230	121	94,170	3,976,186	42.20
44	.002387	90,671	216	90,562	3,447,444	38.02	44	.001422	94,109	134	94,042	3,882,017	41.25
45	.002521	90,454	228	90,340	3,356,882	37.11	45	.001552	93,975	146	93,902	3,787,974	40.31
46	.002662	90,226	240	90,106	3,266,542	36.20	46	.001679	93,830	157	93,751	3,694,072	39.37
47	.002892	89,986	260	89,856	3,176,435	35.30	47	.001819	93,672	170	93,587	3,600,321	38.44
48	.003148	89,726	282	89,584	3,086,580	34.40	48	.001964	93,502	184	93,410	3,506,734	37.50
49	.003407	89,443	305	89,291	2,996,995	33.51	49	.002119	93,318	198	93,219	3,413,324	36.58
50	.003645	89,138	325	88,976	2,907,704	32.62	50	.002286	93,120	213	93,014	3,320,105	35.65
51	.003880	88,814	345	88,641	2,818,728	31.74	51	.002476	92,907	230	92,792	3,227,092	34.73
52	.004202	88,469	372	88,283	2,730,087	30.86	52	.002697	92,677	250	92,552	3,134,299	33.82
53	.004585	88,097	404	87,895	2,641,804	29.99	53	.002950	92,427	273	92,291	3,041,747	32.91
54	.005010	87,693	439	87,474	2,553,909	29.12	54	.003221	92,155	297	92,006	2,949,456	32.01
55	.005440	87,254	475	87,017	2,466,435	28.27	55	.003509	91,858	322	91,697	2,857,449	31.11
56	.005911	86,779	513	86,523	2,379,418	27.42	56	.003822	91,536	350	91,361	2,765,753	30.22
57	.006421	86,266	554	85,989	2,292,896	26.58	57	.004152	91,186	379	90,997	2,674,392	29.33
58	.006966	85,712	597	85,414	2,206,906	25.75	58	.004498	90,807	408	90,603	2,583,395	28.45
59	.007526	85,115	641	84,795	2,121,492	24.92	59	.004842	90,399	438	90,180	2,492,792	27.58

Born in 1950 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.008108	84,475	685	84,132	2,036,697	24.11	60	.005232	89,961	471	89,726	2,402,613	26.71
61	.008750	83,790	733	83,423	1,952,565	23.30	61	.005655	89,490	506	89,237	2,312,887	25.85
62	.009439	83,057	784	82,665	1,869,142	22.50	62	.006153	88,984	547	88,711	2,223,650	24.99
63	.010164	82,273	836	81,855	1,786,477	21.71	63	.006704	88,437	593	88,140	2,134,939	24.14
64	.010901	81,437	888	80,993	1,704,622	20.93	64	.007299	87,844	641	87,523	2,046,799	23.30
65	.011135	80,549	897	80,100	1,623,630	20.16	65	.007775	87,203	678	86,864	1,959,275	22.47
66	.011983	79,652	954	79,175	1,543,529	19.38	66	.008492	86,525	735	86,157	1,872,411	21.64
67	.012894	78,697	1,015	78,190	1,464,354	18.61	67	.009292	85,790	797	85,391	1,786,254	20.82
68	.014028	77,683	1,090	77,138	1,386,164	17.84	68	.010097	84,993	858	84,564	1,700,863	20.01
69	.015224	76,593	1,166	76,010	1,309,026	17.09	69	.010942	84,135	921	83,674	1,616,299	19.21
70	.016556	75,427	1,249	74,803	1,233,017	16.35	70	.011861	83,214	987	82,720	1,532,625	18.42
71	.018079	74,178	1,341	73,508	1,158,214	15.61	71	.012925	82,227	1,063	81,696	1,449,904	17.63
72	.019867	72,837	1,447	72,114	1,084,706	14.89	72	.014166	81,164	1,150	80,589	1,368,209	16.86
73	.021818	71,390	1,558	70,611	1,012,593	14.18	73	.015547	80,014	1,244	79,392	1,287,619	16.09
74	.023935	69,833	1,671	68,997	941,981	13.49	74	.017026	78,770	1,341	78,100	1,208,227	15.34
75	.026280	68,161	1,791	67,265	872,985	12.81	75	.018679	77,429	1,446	76,706	1,130,127	14.60
76	.028925	66,370	1,920	65,410	805,719	12.14	76	.020591	75,983	1,565	75,201	1,053,421	13.86
77	.031924	64,450	2,058	63,421	740,309	11.49	77	.022831	74,418	1,699	73,569	978,220	13.14
78	.035553	62,393	2,218	61,284	676,888	10.85	78	.025472	72,719	1,852	71,793	904,651	12.44
79	.039485	60,174	2,376	58,986	615,604	10.23	79	.028291	70,867	2,005	69,865	832,858	11.75
80	.043846	57,798	2,534	56,531	556,618	9.63	80	.031482	68,862	2,168	67,778	762,993	11.08
81	.048764	55,264	2,695	53,917	500,086	9.05	81	.035248	66,694	2,351	65,519	695,215	10.42
82	.054376	52,569	2,858	51,140	446,170	8.49	82	.039765	64,343	2,559	63,064	629,696	9.79
83	.061104	49,711	3,038	48,192	395,030	7.95	83	.045522	61,785	2,813	60,379	566,632	9.17
84	.068432	46,673	3,194	45,076	346,838	7.43	84	.052139	58,972	3,075	57,435	506,253	8.58
85	.076723	43,479	3,336	41,811	301,762	6.94	85	.059488	55,898	3,325	54,235	448,818	8.03
86	.086342	40,143	3,466	38,410	259,950	6.48	86	.067397	52,572	3,543	50,801	394,584	7.51
87	.096117	36,677	3,525	34,915	221,540	6.04	87	.075711	49,029	3,712	47,173	343,783	7.01
88	.107185	33,152	3,553	31,375	186,625	5.63	88	.085369	45,317	3,869	43,383	296,610	6.55
89	.118298	29,599	3,501	27,848	155,250	5.25	89	.095477	41,448	3,957	39,470	253,227	6.11
90	.131293	26,097	3,426	24,384	127,402	4.88	90	.106871	37,491	4,007	35,488	213,757	5.70
91	.143315	22,671	3,249	21,046	103,018	4.54	91	.117186	33,484	3,924	31,522	178,270	5.32
92	.156137	19,422	3,032	17,906	81,971	4.22	92	.127664	29,560	3,774	27,674	146,747	4.96
93	.172539	16,389	2,828	14,975	64,066	3.91	93	.141237	25,787	3,642	23,966	119,074	4.62
94	.190368	13,562	2,582	12,271	49,091	3.62	94	.155794	22,145	3,450	20,420	95,108	4.29
95	.209636	10,980	2,302	9,829	36,820	3.35	95	.171462	18,695	3,205	17,092	74,688	4.00
96	.230446	8,678	2,000	7,678	26,991	3.11	96	.188281	15,489	2,916	14,031	57,596	3.72
97	.252878	6,678	1,689	5,834	19,313	2.89	97	.206278	12,573	2,594	11,276	43,565	3.47
98	.271971	4,989	1,357	4,311	13,479	2.70	98	.223338	9,979	2,229	8,865	32,289	3.24
99	.291999	3,632	1,061	3,102	9,168	2.52	99	.241268	7,751	1,870	6,816	23,424	3.02
100	.312969	2,572	805	2,169	6,066	2.36	100	.260039	5,881	1,529	5,116	16,609	2.82
101	.334865	1,767	592	1,471	3,896	2.21	101	.279634	4,351	1,217	3,743	11,493	2.64
102	.357659	1,175	420	965	2,425	2.06	102	.300031	3,135	940	2,664	7,750	2.47
103	.381323	755	288	611	1,460	1.93	103	.321160	2,194	705	1,842	5,085	2.32
104	.405816	467	190	372	849	1.82	104	.343002	1,489	511	1,234	3,244	2.18
105	.431088	278	120	218	477	1.72	105	.365495	979	358	800	2,010	2.05
106	.448972	158	71	122	259	1.64	106	.384701	621	239	501	1,210	1.95
107	.466342	87	41	67	137	1.57	107	.403509	382	154	305	708	1.85
108	.483082	46	22	35	70	1.51	108	.421767	228	96	180	403	1.77
109	.499080	24	12	18	35	1.46	109	.439319	132	58	103	223	1.70
110	.511890	12	6	9	17	1.42	110	.454620	74	34	57	121	1.63
111	.523627	6	3	4	8	1.38	111	.468821	40	19	31	64	1.58
112	.534203	3	1	2	4	1.35	112	.481787	21	10	16	33	1.53
113	.543540	1	1	1	2	1.32	113	.493393	11	5	8	16	1.49
114	.551565	1	0	0	1	1.29	114	.503524	6	3	4	8	1.45
115	.558217	0	0	0	0	1.27	115	.512081	3	1	2	4	1.41
116	.563445	0	0	0	0	1.23	116	.518975	1	1	1	2	1.36
117	.567207	0	0	0	0	1.18	117	.524137	1	0	0	1	1.28
118	.569474	0	0	0	0	1.08	118	.527513	0	0	0	0	1.14
119	.570228	0	0	0	0	0.84	119	.529068	0	0	0	0	0.86
120	.569463	0	0	0	0	0.28	120	.528787	0	0	0	0	0.26

Born in 1960

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.030158	100,000	3,016	97,587	7,778,091	77.78	0	.023175	100,000	2,317	98,146	8,256,051	82.56
1	.001781	96,984	173	96,898	7,680,504	79.19	1	.001472	97,683	144	97,611	8,157,905	83.51
2	.001076	96,811	104	96,759	7,583,606	78.33	2	.001060	97,539	103	97,487	8,060,294	82.64
3	.000867	96,707	84	96,665	7,486,846	77.42	3	.000534	97,435	52	97,409	7,962,807	81.72
4	.000862	96,623	83	96,582	7,390,181	76.48	4	.000467	97,383	45	97,361	7,865,398	80.77
5	.000624	96,540	60	96,510	7,293,599	75.55	5	.000536	97,338	52	97,312	7,768,037	79.80
6	.000522	96,480	50	96,455	7,197,089	74.60	6	.000439	97,286	43	97,264	7,670,725	78.85
7	.000468	96,430	45	96,407	7,100,635	73.64	7	.000353	97,243	34	97,226	7,573,461	77.88
8	.000403	96,384	39	96,365	7,004,228	72.67	8	.000304	97,209	30	97,194	7,476,235	76.91
9	.000366	96,346	35	96,328	6,907,863	71.70	9	.000275	97,179	27	97,166	7,379,041	75.93
10	.000367	96,310	35	96,293	6,811,535	70.72	10	.000268	97,152	26	97,139	7,281,876	74.95
11	.000386	96,275	37	96,256	6,715,242	69.75	11	.000270	97,126	26	97,113	7,184,736	73.97
12	.000436	96,238	42	96,217	6,618,985	68.78	12	.000289	97,100	28	97,086	7,087,623	72.99
13	.000569	96,196	55	96,169	6,522,769	67.81	13	.000318	97,072	31	97,057	6,990,537	72.01
14	.000784	96,141	75	96,104	6,426,600	66.85	14	.000360	97,041	35	97,024	6,893,481	71.04
15	.001034	96,066	99	96,016	6,330,496	65.90	15	.000418	97,006	41	96,986	6,796,457	70.06
16	.001286	95,967	123	95,905	6,234,480	64.97	16	.000473	96,966	46	96,943	6,699,471	69.09
17	.001429	95,843	137	95,775	6,138,575	64.05	17	.000499	96,920	48	96,896	6,602,529	68.12
18	.001501	95,706	144	95,634	6,042,800	63.14	18	.000505	96,871	49	96,847	6,505,633	67.16
19	.001542	95,563	147	95,489	5,947,166	62.23	19	.000498	96,822	48	96,798	6,408,786	66.19
20	.001495	95,415	143	95,344	5,851,677	61.33	20	.000470	96,774	45	96,751	6,311,988	65.22
21	.001481	95,273	141	95,202	5,756,333	60.42	21	.000452	96,729	44	96,707	6,215,236	64.25
22	.001432	95,131	136	95,063	5,661,131	59.51	22	.000440	96,685	43	96,664	6,118,530	63.28
23	.001371	94,995	130	94,930	5,566,068	58.59	23	.000430	96,642	42	96,622	6,021,866	62.31
24	.001288	94,865	122	94,804	5,471,138	57.67	24	.000416	96,601	40	96,581	5,925,244	61.34
25	.001271	94,743	120	94,683	5,376,334	56.75	25	.000413	96,561	40	96,541	5,828,663	60.36
26	.001208	94,622	114	94,565	5,281,652	55.82	26	.000401	96,521	39	96,502	5,732,122	59.39
27	.001171	94,508	111	94,453	5,187,087	54.89	27	.000420	96,482	41	96,462	5,635,621	58.41
28	.001159	94,397	109	94,343	5,092,634	53.95	28	.000432	96,442	42	96,421	5,539,159	57.44
29	.001163	94,288	110	94,233	4,998,291	53.01	29	.000449	96,400	43	96,378	5,442,738	56.46
30	.001183	94,178	111	94,123	4,904,058	52.07	30	.000470	96,357	45	96,334	5,346,359	55.49
31	.001222	94,067	115	94,009	4,809,936	51.13	31	.000483	96,312	47	96,288	5,250,025	54.51
32	.001266	93,952	119	93,892	4,715,926	50.20	32	.000518	96,265	50	96,240	5,153,737	53.54
33	.001312	93,833	123	93,771	4,622,034	49.26	33	.000548	96,215	53	96,189	5,057,497	52.56
34	.001357	93,710	127	93,646	4,528,263	48.32	34	.000585	96,162	56	96,134	4,961,308	51.59
35	.001405	93,583	131	93,517	4,434,616	47.39	35	.000631	96,106	61	96,076	4,865,174	50.62
36	.001460	93,451	136	93,383	4,341,099	46.45	36	.000670	96,045	64	96,013	4,769,098	49.65
37	.001466	93,315	137	93,246	4,247,716	45.52	37	.000735	95,981	71	95,946	4,673,085	48.69
38	.001496	93,178	139	93,108	4,154,470	44.59	38	.000792	95,911	76	95,873	4,577,139	47.72
39	.001527	93,039	142	92,968	4,061,362	43.65	39	.000860	95,835	82	95,793	4,481,267	46.76
40	.001575	92,897	146	92,823	3,968,394	42.72	40	.000928	95,752	89	95,708	4,385,473	45.80
41	.001637	92,750	152	92,674	3,875,571	41.79	41	.000990	95,663	95	95,616	4,289,766	44.84
42	.001751	92,598	162	92,517	3,782,897	40.85	42	.001076	95,569	103	95,517	4,194,150	43.89
43	.001895	92,436	175	92,349	3,690,379	39.92	43	.001162	95,466	111	95,410	4,098,632	42.93
44	.002042	92,261	188	92,167	3,598,031	39.00	44	.001246	95,355	119	95,296	4,003,222	41.98
45	.002199	92,073	202	91,972	3,505,864	38.08	45	.001333	95,236	127	95,173	3,907,926	41.03
46	.002367	91,870	217	91,762	3,413,892	37.16	46	.001439	95,109	137	95,041	3,812,754	40.09
47	.002546	91,653	233	91,536	3,322,131	36.25	47	.001549	94,972	147	94,899	3,717,713	39.15
48	.002713	91,420	248	91,295	3,230,594	35.34	48	.001680	94,825	159	94,746	3,622,814	38.21
49	.002889	91,171	263	91,040	3,139,299	34.43	49	.001812	94,666	171	94,580	3,528,069	37.27
50	.003072	90,908	279	90,768	3,048,259	33.53	50	.001962	94,494	185	94,402	3,433,489	36.34
51	.003285	90,629	298	90,480	2,957,491	32.63	51	.002137	94,309	202	94,208	3,339,087	35.41
52	.003541	90,331	320	90,171	2,867,011	31.74	52	.002330	94,107	219	93,998	3,244,879	34.48
53	.003844	90,011	346	89,838	2,776,840	30.85	53	.002553	93,888	240	93,768	3,150,881	33.56
54	.004183	89,665	375	89,478	2,687,002	29.97	54	.002798	93,649	262	93,518	3,057,112	32.64
55	.004538	89,290	405	89,088	2,597,524	29.09	55	.003063	93,387	286	93,243	2,963,595	31.73
56	.004933	88,885	438	88,666	2,508,436	28.22	56	.003352	93,100	312	92,944	2,870,351	30.83
57	.005365	88,447	475	88,209	2,419,770	27.36	57	.003659	92,788	340	92,619	2,777,407	29.93
58	.005842	87,972	514	87,715	2,331,561	26.50	58	.003987	92,449	369	92,265	2,684,788	29.04
59	.006333	87,458	554	87,181	2,243,846	25.66	59	.004313	92,080	397	91,882	2,592,524	28.16

Born in 1960 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.006851	86,904	595	86,607	2,156,665	24.82	60	.004682	91,683	429	91,469	2,500,642	27.27
61	.007425	86,309	641	85,989	2,070,058	23.98	61	.005082	91,254	464	91,022	2,409,173	26.40
62	.008057	85,668	690	85,323	1,984,070	23.16	62	.005556	90,790	504	90,538	2,318,151	25.53
63	.008721	84,978	741	84,607	1,898,747	22.34	63	.006078	90,286	549	90,011	2,227,613	24.67
64	.009409	84,237	793	83,841	1,814,139	21.54	64	.006640	89,737	596	89,439	2,137,602	23.82
65	.009679	83,444	808	83,040	1,730,299	20.74	65	.007095	89,141	632	88,825	2,048,162	22.98
66	.010491	82,637	867	82,203	1,647,258	19.93	66	.007777	88,509	688	88,165	1,959,338	22.14
67	.011369	81,770	930	81,305	1,565,055	19.14	67	.008534	87,820	749	87,446	1,871,173	21.31
68	.012494	80,840	1,010	80,335	1,483,750	18.35	68	.009290	87,071	809	86,666	1,783,727	20.49
69	.013690	79,830	1,093	79,284	1,403,415	17.58	69	.010087	86,262	870	85,827	1,697,061	19.67
70	.015012	78,737	1,182	78,146	1,324,132	16.82	70	.010954	85,392	935	84,924	1,611,234	18.87
71	.016510	77,555	1,280	76,915	1,245,986	16.07	71	.011958	84,457	1,010	83,952	1,526,310	18.07
72	.018248	76,275	1,392	75,579	1,169,071	15.33	72	.013127	83,447	1,095	82,899	1,442,358	17.28
73	.020137	74,883	1,508	74,129	1,093,492	14.60	73	.014428	82,351	1,188	81,757	1,359,459	16.51
74	.022176	73,375	1,627	72,561	1,019,363	13.89	74	.015820	81,163	1,284	80,521	1,277,702	15.74
75	.024421	71,748	1,752	70,872	946,802	13.20	75	.017373	79,879	1,388	79,185	1,197,181	14.99
76	.026938	69,996	1,886	69,053	875,930	12.51	76	.019165	78,491	1,504	77,739	1,117,996	14.24
77	.029776	68,110	2,028	67,096	806,877	11.85	77	.021262	76,987	1,637	76,169	1,040,256	13.51
78	.033182	66,082	2,193	64,986	739,781	11.19	78	.023729	75,350	1,788	74,456	964,088	12.79
79	.036853	63,889	2,355	62,712	674,795	10.56	79	.026357	73,562	1,939	72,593	889,632	12.09
80	.040925	61,535	2,518	60,276	612,083	9.95	80	.029332	71,623	2,101	70,573	817,039	11.41
81	.045514	59,016	2,686	57,673	551,808	9.35	81	.032842	69,523	2,283	68,381	746,466	10.74
82	.050749	56,330	2,859	54,901	494,134	8.77	82	.037050	67,239	2,491	65,994	678,085	10.08
83	.057141	53,472	3,055	51,944	439,233	8.21	83	.042501	64,748	2,752	63,372	612,091	9.45
84	.064121	50,416	3,233	48,800	387,289	7.68	84	.048776	61,996	3,024	60,484	548,719	8.85
85	.072029	47,184	3,399	45,484	338,489	7.17	85	.055764	58,972	3,289	57,328	488,234	8.28
86	.081213	43,785	3,556	42,007	293,005	6.69	86	.063315	55,684	3,526	53,921	430,906	7.74
87	.090589	40,229	3,644	38,407	250,998	6.24	87	.071291	52,158	3,718	50,299	376,985	7.23
88	.101701	36,585	3,721	34,724	212,591	5.81	88	.080948	48,440	3,921	46,479	326,686	6.74
89	.112935	32,864	3,712	31,008	177,867	5.41	89	.091094	44,519	4,055	42,491	280,207	6.29
90	.126242	29,153	3,680	27,312	146,858	5.04	90	.102709	40,463	4,156	38,385	237,716	5.87
91	.137819	25,472	3,511	23,717	119,546	4.69	91	.112658	36,307	4,090	34,262	199,331	5.49
92	.150169	21,962	3,298	20,313	95,829	4.36	92	.122778	32,217	3,956	30,239	165,068	5.12
93	.165890	18,664	3,096	17,116	75,516	4.05	93	.135805	28,261	3,838	26,342	134,829	4.77
94	.182979	15,568	2,849	14,143	58,401	3.75	94	.149775	24,423	3,658	22,594	108,487	4.44
95	.201448	12,719	2,562	11,438	44,257	3.48	95	.164809	20,765	3,422	19,054	85,892	4.14
96	.221393	10,157	2,249	9,033	32,819	3.23	96	.180945	17,343	3,138	15,774	66,838	3.85
97	.242890	7,908	1,921	6,948	23,787	3.01	97	.198209	14,205	2,816	12,797	51,064	3.59
98	.261223	5,987	1,564	5,205	16,839	2.81	98	.214600	11,389	2,444	10,167	38,267	3.36
99	.280456	4,423	1,241	3,803	11,634	2.63	99	.231827	8,945	2,074	7,908	28,099	3.14
100	.300595	3,183	957	2,704	7,831	2.46	100	.249861	6,871	1,717	6,013	20,191	2.94
101	.321624	2,226	716	1,868	5,126	2.30	101	.268686	5,155	1,385	4,462	14,178	2.75
102	.343516	1,510	519	1,251	3,258	2.16	102	.288281	3,770	1,087	3,226	9,716	2.58
103	.366247	991	363	810	2,007	2.02	103	.308579	2,683	828	2,269	6,490	2.42
104	.389779	628	245	506	1,197	1.91	104	.329561	1,855	611	1,549	4,221	2.28
105	.414061	383	159	304	692	1.80	105	.351166	1,244	437	1,025	2,671	2.15
106	.431249	225	97	176	388	1.73	106	.369617	807	298	658	1,646	2.04
107	.447944	128	57	99	211	1.65	107	.387685	509	197	410	988	1.94
108	.464035	71	33	54	112	1.59	108	.405224	311	126	248	578	1.86
109	.479414	38	18	29	58	1.54	109	.422085	185	78	146	330	1.78
110	.491728	20	10	15	29	1.49	110	.436781	107	47	84	184	1.72
111	.503011	10	5	7	15	1.45	111	.450420	60	27	47	100	1.66
112	.513180	5	3	4	7	1.42	112	.462873	33	15	25	53	1.61
113	.522156	2	1	2	3	1.39	113	.474020	18	8	14	28	1.56
114	.529873	1	1	1	2	1.36	114	.483751	9	5	7	14	1.52
115	.536270	1	0	0	1	1.33	115	.491969	5	2	4	7	1.47
116	.541298	0	0	0	0	1.30	116	.498590	2	1	2	3	1.42
117	.544916	0	0	0	0	1.23	117	.503547	1	1	1	2	1.33
118	.547098	0	0	0	0	1.11	118	.506790	1	0	0	1	1.18
119	.547824	0	0	0	0	0.85	119	.508283	0	0	0	0	0.87
120	.547090	0	0	0	0	0.27	120	.508012	0	0	0	0	0.25

Born in 1970

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.020052	100,000	2,005	98,396	7,998,344	79.98	0	.015455	100,000	1,546	98,764	8,409,639	84.10
1	.001240	97,995	122	97,934	7,899,948	80.62	1	.001138	98,454	112	98,398	8,310,875	84.41
2	.000875	97,873	86	97,830	7,802,014	79.72	2	.000719	98,342	71	98,307	8,212,477	83.51
3	.000710	97,788	69	97,753	7,704,183	78.78	3	.000523	98,272	51	98,246	8,114,170	82.57
4	.000563	97,718	55	97,691	7,606,430	77.84	4	.000424	98,220	42	98,199	8,015,924	81.61
5	.000435	97,663	42	97,642	7,508,740	76.88	5	.000337	98,179	33	98,162	7,917,724	80.65
6	.000341	97,621	33	97,604	7,411,098	75.92	6	.000276	98,146	27	98,132	7,819,562	79.67
7	.000264	97,588	26	97,575	7,313,493	74.94	7	.000238	98,118	23	98,107	7,721,430	78.69
8	.000210	97,562	20	97,552	7,215,919	73.96	8	.000203	98,095	20	98,085	7,623,323	77.71
9	.000197	97,541	19	97,532	7,118,367	72.98	9	.000183	98,075	18	98,066	7,525,238	76.73
10	.000219	97,522	21	97,511	7,020,836	71.99	10	.000181	98,057	18	98,048	7,427,172	75.74
11	.000257	97,501	25	97,488	6,923,324	71.01	11	.000184	98,039	18	98,030	7,329,124	74.76
12	.000325	97,476	32	97,460	6,825,836	70.03	12	.000203	98,021	20	98,012	7,231,093	73.77
13	.000438	97,444	43	97,423	6,728,376	69.05	13	.000231	98,002	23	97,990	7,133,082	72.79
14	.000596	97,401	58	97,372	6,630,954	68.08	14	.000285	97,979	28	97,965	7,035,091	71.80
15	.000734	97,343	71	97,308	6,533,582	67.12	15	.000327	97,951	32	97,935	6,937,126	70.82
16	.000856	97,272	83	97,230	6,436,274	66.17	16	.000382	97,919	37	97,900	6,839,191	69.85
17	.000973	97,189	95	97,141	6,339,044	65.22	17	.000402	97,882	39	97,862	6,741,291	68.87
18	.001045	97,094	101	97,043	6,241,903	64.29	18	.000407	97,842	40	97,822	6,643,429	67.90
19	.001093	96,993	106	96,940	6,144,859	63.35	19	.000397	97,802	39	97,783	6,545,607	66.93
20	.001090	96,887	106	96,834	6,047,920	62.42	20	.000371	97,764	36	97,745	6,447,824	65.95
21	.001101	96,781	107	96,728	5,951,086	61.49	21	.000357	97,727	35	97,710	6,350,078	64.98
22	.001091	96,674	105	96,622	5,854,358	60.56	22	.000345	97,692	34	97,676	6,252,368	64.00
23	.001071	96,569	103	96,517	5,757,736	59.62	23	.000347	97,659	34	97,642	6,154,693	63.02
24	.001042	96,466	100	96,415	5,661,219	58.69	24	.000351	97,625	34	97,608	6,057,051	62.04
25	.000998	96,365	96	96,317	5,564,804	57.75	25	.000355	97,591	35	97,573	5,959,443	61.07
26	.000963	96,269	93	96,223	5,468,487	56.80	26	.000360	97,556	35	97,538	5,861,870	60.09
27	.000925	96,176	89	96,132	5,372,264	55.86	27	.000371	97,521	36	97,503	5,764,332	59.11
28	.000916	96,087	88	96,043	5,276,133	54.91	28	.000383	97,485	37	97,466	5,666,829	58.13
29	.000910	95,999	87	95,955	5,180,089	53.96	29	.000396	97,447	39	97,428	5,569,363	57.15
30	.000913	95,912	88	95,868	5,084,134	53.01	30	.000408	97,409	40	97,389	5,471,935	56.17
31	.000898	95,824	86	95,781	4,988,266	52.06	31	.000434	97,369	42	97,348	5,374,546	55.20
32	.000937	95,738	90	95,693	4,892,485	51.10	32	.000468	97,327	46	97,304	5,277,198	54.22
33	.000959	95,648	92	95,603	4,796,792	50.15	33	.000495	97,281	48	97,257	5,179,894	53.25
34	.000992	95,557	95	95,509	4,701,189	49.20	34	.000531	97,233	52	97,207	5,082,637	52.27
35	.001011	95,462	96	95,414	4,605,680	48.25	35	.000573	97,182	56	97,154	4,985,429	51.30
36	.001036	95,365	99	95,316	4,510,266	47.29	36	.000618	97,126	60	97,096	4,888,276	50.33
37	.001074	95,267	102	95,215	4,414,950	46.34	37	.000666	97,066	65	97,033	4,791,180	49.36
38	.001134	95,164	108	95,110	4,319,735	45.39	38	.000713	97,001	69	96,967	4,694,146	48.39
39	.001197	95,056	114	94,999	4,224,624	44.44	39	.000764	96,932	74	96,895	4,597,180	47.43
40	.001279	94,943	121	94,882	4,129,625	43.50	40	.000822	96,858	80	96,818	4,500,285	46.46
41	.001373	94,821	130	94,756	4,034,743	42.55	41	.000877	96,778	85	96,736	4,403,467	45.50
42	.001485	94,691	141	94,621	3,939,987	41.61	42	.000953	96,693	92	96,647	4,306,731	44.54
43	.001609	94,550	152	94,474	3,845,366	40.67	43	.001026	96,601	99	96,552	4,210,083	43.58
44	.001737	94,398	164	94,316	3,750,892	39.73	44	.001095	96,502	106	96,449	4,113,532	42.63
45	.001877	94,234	177	94,146	3,656,575	38.80	45	.001166	96,396	112	96,340	4,017,082	41.67
46	.002029	94,057	191	93,962	3,562,430	37.88	46	.001253	96,284	121	96,224	3,920,742	40.72
47	.002193	93,867	206	93,764	3,468,468	36.95	47	.001344	96,163	129	96,099	3,824,518	39.77
48	.002340	93,661	219	93,551	3,374,704	36.03	48	.001466	96,034	141	95,964	3,728,419	38.82
49	.002497	93,441	233	93,325	3,281,153	35.11	49	.001590	95,893	152	95,817	3,632,456	37.88
50	.002664	93,208	248	93,084	3,187,828	34.20	50	.001732	95,741	166	95,658	3,536,638	36.94
51	.002857	92,960	266	92,827	3,094,744	33.29	51	.001896	95,575	181	95,484	3,440,980	36.00
52	.003089	92,694	286	92,551	3,001,917	32.39	52	.002078	95,394	198	95,295	3,345,496	35.07
53	.003365	92,408	311	92,252	2,909,366	31.48	53	.002288	95,196	218	95,087	3,250,201	34.14
54	.003677	92,097	339	91,928	2,817,113	30.59	54	.002521	94,978	239	94,858	3,155,114	33.22
55	.004006	91,758	368	91,575	2,725,186	29.70	55	.002771	94,738	263	94,607	3,060,256	32.30
56	.004374	91,391	400	91,191	2,633,611	28.82	56	.003044	94,476	288	94,332	2,965,649	31.39
57	.004782	90,991	435	90,773	2,542,420	27.94	57	.003337	94,188	314	94,031	2,871,317	30.48
58	.005237	90,556	474	90,319	2,451,647	27.07	58	.003649	93,874	343	93,703	2,777,285	29.59
59	.005711	90,082	514	89,824	2,361,328	26.21	59	.003961	93,532	370	93,346	2,683,583	28.69

Born in 1970 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.006214	89,567	557	89,289	2,271,504	25.36	60	.004311	93,161	402	92,960	2,590,236	27.80
61	.006770	89,011	603	88,709	2,182,215	24.52	61	.004691	92,759	435	92,542	2,497,276	26.92
62	.007384	88,408	653	88,082	2,093,505	23.68	62	.005139	92,324	474	92,087	2,404,734	26.05
63	.008028	87,755	704	87,403	2,005,424	22.85	63	.005629	91,850	517	91,591	2,312,647	25.18
64	.008694	87,051	757	86,672	1,918,021	22.03	64	.006157	91,333	562	91,052	2,221,056	24.32
65	.008985	86,294	775	85,906	1,831,348	21.22	65	.006581	90,770	597	90,472	2,130,004	23.47
66	.009764	85,519	835	85,101	1,745,442	20.41	66	.007217	90,173	651	89,848	2,039,532	22.62
67	.010600	84,684	898	84,235	1,660,341	19.61	67	.007921	89,522	709	89,168	1,949,685	21.78
68	.011661	83,786	977	83,297	1,576,106	18.81	68	.008628	88,813	766	88,430	1,860,517	20.95
69	.012779	82,809	1,058	82,280	1,492,809	18.03	69	.009371	88,047	825	87,634	1,772,087	20.13
70	.014015	81,751	1,146	81,178	1,410,529	17.25	70	.010181	87,222	888	86,778	1,684,452	19.31
71	.015413	80,605	1,242	79,984	1,329,352	16.49	71	.011118	86,334	960	85,854	1,597,675	18.51
72	.017036	79,363	1,352	78,686	1,249,368	15.74	72	.012210	85,374	1,042	84,853	1,511,821	17.71
73	.018802	78,010	1,467	77,277	1,170,681	15.01	73	.013422	84,332	1,132	83,766	1,426,968	16.92
74	.020709	76,544	1,585	75,751	1,093,404	14.28	74	.014717	83,200	1,224	82,587	1,343,202	16.14
75	.022809	74,959	1,710	74,104	1,017,653	13.58	75	.016163	81,975	1,325	81,313	1,260,615	15.38
76	.025164	73,249	1,843	72,327	943,549	12.88	76	.017832	80,650	1,438	79,931	1,179,302	14.62
77	.027821	71,406	1,987	70,412	871,222	12.20	77	.019786	79,212	1,567	78,428	1,099,371	13.88
78	.031005	69,419	2,152	68,343	800,810	11.54	78	.022085	77,645	1,715	76,787	1,020,943	13.15
79	.034438	67,267	2,317	66,108	732,467	10.89	79	.024536	75,930	1,863	74,999	944,155	12.43
80	.038244	64,950	2,484	63,708	666,359	10.26	80	.027311	74,067	2,023	73,056	869,157	11.73
81	.042532	62,466	2,657	61,138	602,651	9.65	81	.030581	72,044	2,203	70,943	796,101	11.05
82	.047419	59,809	2,836	58,391	541,513	9.05	82	.034499	69,841	2,409	68,636	725,158	10.38
83	.053495	56,973	3,048	55,449	483,122	8.48	83	.039658	67,432	2,674	66,095	656,522	9.74
84	.060148	53,925	3,244	52,304	427,673	7.93	84	.045602	64,757	2,953	63,281	590,427	9.12
85	.067694	50,682	3,431	48,966	375,369	7.41	85	.052243	61,804	3,229	60,190	527,147	8.53
86	.076460	47,251	3,613	45,445	326,402	6.91	86	.059457	58,576	3,483	56,834	466,957	7.97
87	.085461	43,638	3,729	41,774	280,958	6.44	87	.067133	55,093	3,699	53,244	410,122	7.44
88	.096561	39,909	3,854	37,982	239,184	5.99	88	.076751	51,394	3,945	49,422	356,879	6.94
89	.107898	36,055	3,890	34,110	201,202	5.58	89	.086928	47,450	4,125	45,387	307,457	6.48
90	.121492	32,165	3,908	30,211	167,092	5.19	90	.098757	43,325	4,279	41,186	262,070	6.05
91	.132671	28,257	3,749	26,383	136,881	4.84	91	.108402	39,046	4,233	36,930	220,884	5.66
92	.144603	24,508	3,544	22,736	110,498	4.51	92	.118246	34,814	4,117	32,755	183,954	5.28
93	.159636	20,964	3,347	19,291	87,762	4.19	93	.130732	30,697	4,013	28,691	151,198	4.93
94	.175975	17,618	3,100	16,068	68,471	3.89	94	.144121	26,684	3,846	24,761	122,508	4.59
95	.193631	14,517	2,811	13,112	52,404	3.61	95	.158524	22,838	3,620	21,028	97,747	4.28
96	.212697	11,706	2,490	10,461	39,292	3.36	96	.173977	19,218	3,343	17,546	76,719	3.99
97	.233239	9,216	2,150	8,142	28,830	3.13	97	.190502	15,874	3,024	14,362	59,173	3.73
98	.250833	7,067	1,773	6,181	20,689	2.93	98	.206253	12,850	2,650	11,525	44,810	3.49
99	.269293	5,294	1,426	4,581	14,508	2.74	99	.222806	10,200	2,273	9,064	33,285	3.26
100	.288625	3,869	1,117	3,310	9,927	2.57	100	.240133	7,927	1,904	6,975	24,221	3.06
101	.308816	2,752	850	2,327	6,616	2.40	101	.258219	6,024	1,555	5,246	17,246	2.86
102	.329840	1,902	627	1,588	4,289	2.26	102	.277043	4,468	1,238	3,849	12,000	2.69
103	.351674	1,275	448	1,051	2,701	2.12	103	.296541	3,230	958	2,751	8,151	2.52
104	.374282	826	309	672	1,650	2.00	104	.316693	2,272	720	1,913	5,399	2.38
105	.397618	517	206	414	979	1.89	105	.337443	1,553	524	1,291	3,487	2.25
106	.414145	312	129	247	564	1.81	106	.355165	1,029	365	846	2,196	2.13
107	.430200	182	79	143	317	1.74	107	.372520	663	247	540	1,350	2.03
108	.445677	104	46	81	174	1.67	108	.389366	416	162	335	810	1.95
109	.460470	58	27	44	93	1.62	109	.405563	254	103	203	475	1.87
110	.472315	31	15	24	49	1.57	110	.419673	151	63	119	272	1.80
111	.483169	16	8	12	25	1.53	111	.432768	88	38	69	153	1.74
112	.492952	8	4	6	13	1.50	112	.444724	50	22	39	84	1.69
113	.501589	4	2	3	6	1.46	113	.455425	28	13	21	45	1.64
114	.509015	2	1	2	3	1.43	114	.464767	15	7	12	24	1.59
115	.515172	1	1	1	1	1.40	115	.472656	8	4	6	12	1.54
116	.520012	1	0	0	1	1.36	116	.479012	4	2	3	6	1.48
117	.523496	0	0	0	0	1.28	117	.483771	2	1	2	3	1.38
118	.525597	0	0	0	0	1.15	118	.486882	1	1	1	1	1.21
119	.526299	0	0	0	0	0.86	119	.488315	1	0	0	1	0.88
120	.525596	0	0	0	0	0.26	120	.488054	0	0	0	0	0.24

Born in 1980

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.011774	100,000	1,177	99,058	8,179,882	81.80	0	.009033	100,000	903	99,277	8,544,941	85.45
1	.000811	98,823	80	98,783	8,080,824	81.77	1	.000668	99,097	66	99,064	8,445,664	85.23
2	.000603	98,742	60	98,713	7,982,042	80.84	2	.000453	99,030	45	99,008	8,346,600	84.28
3	.000438	98,683	43	98,661	7,883,329	79.89	3	.000349	98,986	35	98,968	8,247,592	83.32
4	.000400	98,640	39	98,620	7,784,668	78.92	4	.000268	98,951	27	98,938	8,148,624	82.35
5	.000320	98,600	32	98,584	7,686,048	77.95	5	.000211	98,925	21	98,914	8,049,686	81.37
6	.000235	98,569	23	98,557	7,587,463	76.98	6	.000159	98,904	16	98,896	7,950,772	80.39
7	.000155	98,546	15	98,538	7,488,906	75.99	7	.000136	98,888	13	98,881	7,851,876	79.40
8	.000131	98,530	13	98,524	7,390,368	75.01	8	.000115	98,874	11	98,869	7,752,995	78.41
9	.000128	98,517	13	98,511	7,291,844	74.02	9	.000113	98,863	11	98,858	7,654,126	77.42
10	.000141	98,505	14	98,498	7,193,333	73.03	10	.000119	98,852	12	98,846	7,555,269	76.43
11	.000136	98,491	13	98,484	7,094,835	72.04	11	.000120	98,840	12	98,834	7,456,423	75.44
12	.000209	98,478	21	98,467	6,996,351	71.05	12	.000159	98,828	16	98,820	7,357,588	74.45
13	.000307	98,457	30	98,442	6,897,884	70.06	13	.000193	98,813	19	98,803	7,258,768	73.46
14	.000422	98,427	42	98,406	6,799,442	69.08	14	.000234	98,793	23	98,782	7,159,965	72.47
15	.000538	98,385	53	98,359	6,701,036	68.11	15	.000276	98,770	27	98,757	7,061,183	71.49
16	.000636	98,332	63	98,301	6,602,678	67.15	16	.000313	98,743	31	98,728	6,962,426	70.51
17	.000714	98,270	70	98,235	6,504,377	66.19	17	.000340	98,712	34	98,695	6,863,699	69.53
18	.000767	98,199	75	98,162	6,406,142	65.24	18	.000345	98,679	34	98,662	6,765,003	68.56
19	.000805	98,124	79	98,085	6,307,980	64.29	19	.000342	98,645	34	98,628	6,666,342	67.58
20	.000821	98,045	80	98,005	6,209,896	63.34	20	.000337	98,611	33	98,594	6,567,714	66.60
21	.000820	97,965	80	97,925	6,111,891	62.39	21	.000340	98,578	34	98,561	6,469,120	65.62
22	.000825	97,884	81	97,844	6,013,966	61.44	22	.000332	98,544	33	98,528	6,370,559	64.65
23	.000817	97,804	80	97,764	5,916,122	60.49	23	.000318	98,511	31	98,496	6,272,031	63.67
24	.000786	97,724	77	97,685	5,818,359	59.54	24	.000317	98,480	31	98,464	6,173,536	62.69
25	.000751	97,647	73	97,610	5,720,673	58.59	25	.000314	98,449	31	98,433	6,075,071	61.71
26	.000715	97,574	70	97,539	5,623,063	57.63	26	.000311	98,418	31	98,402	5,976,638	60.73
27	.000683	97,504	67	97,470	5,525,525	56.67	27	.000305	98,387	30	98,372	5,878,235	59.75
28	.000681	97,437	66	97,404	5,428,054	55.71	28	.000320	98,357	32	98,341	5,779,863	58.76
29	.000675	97,371	66	97,338	5,330,650	54.75	29	.000336	98,326	33	98,309	5,681,522	57.78
30	.000688	97,305	67	97,272	5,233,312	53.78	30	.000349	98,293	34	98,276	5,583,213	56.80
31	.000688	97,238	67	97,205	5,136,040	52.82	31	.000373	98,258	37	98,240	5,484,937	55.82
32	.000708	97,171	69	97,137	5,038,836	51.86	32	.000404	98,222	40	98,202	5,386,697	54.84
33	.000723	97,102	70	97,067	4,941,699	50.89	33	.000430	98,182	42	98,161	5,288,495	53.86
34	.000749	97,032	73	96,996	4,844,632	49.93	34	.000465	98,140	46	98,117	5,190,334	52.89
35	.000777	96,959	75	96,922	4,747,636	48.97	35	.000507	98,094	50	98,069	5,092,217	51.91
36	.000811	96,884	79	96,845	4,650,714	48.00	36	.000552	98,044	54	98,017	4,994,148	50.94
37	.000856	96,806	83	96,764	4,553,869	47.04	37	.000600	97,990	59	97,961	4,896,131	49.97
38	.000926	96,723	90	96,678	4,457,105	46.08	38	.000643	97,931	63	97,900	4,798,170	49.00
39	.000998	96,633	96	96,585	4,360,427	45.12	39	.000690	97,868	67	97,835	4,700,270	48.03
40	.001089	96,537	105	96,484	4,263,842	44.17	40	.000743	97,801	73	97,765	4,602,435	47.06
41	.001191	96,432	115	96,374	4,167,358	43.22	41	.000794	97,728	78	97,690	4,504,671	46.09
42	.001310	96,317	126	96,254	4,070,984	42.27	42	.000865	97,651	84	97,609	4,406,981	45.13
43	.001428	96,191	137	96,122	3,974,730	41.32	43	.000927	97,566	90	97,521	4,309,373	44.17
44	.001549	96,053	149	95,979	3,878,608	40.38	44	.000988	97,476	96	97,428	4,211,851	43.21
45	.001684	95,904	162	95,824	3,782,629	39.44	45	.001049	97,380	102	97,328	4,114,424	42.25
46	.001831	95,743	175	95,655	3,686,806	38.51	46	.001126	97,277	109	97,223	4,017,095	41.30
47	.001988	95,568	190	95,473	3,591,150	37.58	47	.001207	97,168	117	97,109	3,919,873	40.34
48	.002129	95,378	203	95,276	3,495,678	36.65	48	.001326	97,051	129	96,986	3,822,763	39.39
49	.002280	95,175	217	95,066	3,400,402	35.73	49	.001447	96,922	140	96,852	3,725,777	38.44
50	.002441	94,958	232	94,842	3,305,336	34.81	50	.001585	96,782	153	96,705	3,628,925	37.50
51	.002627	94,726	249	94,601	3,210,494	33.89	51	.001743	96,628	168	96,544	3,532,220	36.55
52	.002850	94,477	269	94,342	3,115,893	32.98	52	.001917	96,460	185	96,367	3,435,676	35.62
53	.003112	94,208	293	94,061	3,021,550	32.07	53	.002117	96,275	204	96,173	3,339,309	34.69
54	.003411	93,915	320	93,754	2,927,489	31.17	54	.002338	96,071	225	95,959	3,243,136	33.76
55	.003724	93,594	349	93,420	2,833,735	30.28	55	.002576	95,847	247	95,723	3,147,177	32.84
56	.004074	93,246	380	93,056	2,740,315	29.39	56	.002834	95,600	271	95,464	3,051,454	31.92
57	.004459	92,866	414	92,659	2,647,259	28.51	57	.003109	95,329	296	95,181	2,955,989	31.01
58	.004887	92,452	452	92,226	2,554,601	27.63	58	.003402	95,032	323	94,871	2,860,809	30.10
59	.005329	92,000	490	91,755	2,462,375	26.77	59	.003694	94,709	350	94,534	2,765,938	29.20

Born in 1980 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.005797	91,510	530	91,244	2,370,620	25.91	60	.004021	94,359	379	94,170	2,671,404	28.31
61	.006316	90,979	575	90,692	2,279,376	25.05	61	.004376	93,980	411	93,774	2,577,234	27.42
62	.006888	90,404	623	90,093	2,188,684	24.21	62	.004795	93,569	449	93,344	2,483,460	26.54
63	.007487	89,782	672	89,446	2,098,591	23.37	63	.005253	93,120	489	92,875	2,390,116	25.67
64	.008108	89,110	723	88,748	2,009,146	22.55	64	.005747	92,631	532	92,365	2,297,241	24.80
65	.008371	88,387	740	88,017	1,920,397	21.73	65	.006145	92,098	566	91,815	2,204,876	23.94
66	.009096	87,647	797	87,249	1,832,380	20.91	66	.006739	91,532	617	91,224	2,113,061	23.09
67	.009873	86,850	858	86,421	1,745,131	20.09	67	.007397	90,916	673	90,579	2,021,837	22.24
68	.010861	85,993	934	85,526	1,658,710	19.29	68	.008056	90,243	727	89,880	1,931,257	21.40
69	.011901	85,059	1,012	84,552	1,573,185	18.50	69	.008748	89,516	783	89,125	1,841,377	20.57
70	.013051	84,046	1,097	83,498	1,488,632	17.71	70	.009503	88,733	843	88,311	1,752,253	19.75
71	.014353	82,949	1,191	82,354	1,405,134	16.94	71	.010376	87,890	912	87,434	1,663,941	18.93
72	.015864	81,759	1,297	81,110	1,322,780	16.18	72	.011393	86,978	991	86,482	1,576,508	18.13
73	.017506	80,462	1,409	79,758	1,241,670	15.43	73	.012523	85,987	1,077	85,449	1,490,025	17.33
74	.019280	79,053	1,524	78,291	1,161,912	14.70	74	.013731	84,910	1,166	84,327	1,404,576	16.54
75	.021233	77,529	1,646	76,706	1,083,621	13.98	75	.015079	83,744	1,263	83,113	1,320,249	15.77
76	.023423	75,883	1,777	74,994	1,006,915	13.27	76	.016636	82,482	1,372	81,795	1,237,136	15.00
77	.025891	74,106	1,919	73,146	931,921	12.58	77	.018457	81,109	1,497	80,361	1,155,341	14.24
78	.028854	72,187	2,083	71,145	858,774	11.90	78	.020601	79,612	1,640	78,792	1,074,980	13.50
79	.032046	70,104	2,247	68,981	787,629	11.24	79	.022885	77,972	1,784	77,080	996,188	12.78
80	.035587	67,857	2,415	66,650	718,648	10.59	80	.025471	76,188	1,941	75,218	919,108	12.06
81	.039577	65,443	2,590	64,148	651,998	9.96	81	.028520	74,247	2,118	73,189	843,890	11.37
82	.044127	62,853	2,774	61,466	587,850	9.35	82	.032174	72,130	2,321	70,969	770,702	10.68
83	.049884	60,079	2,997	58,581	526,385	8.76	83	.037058	69,809	2,587	68,516	699,732	10.02
84	.056202	57,082	3,208	55,478	467,804	8.20	84	.042700	67,222	2,870	65,787	631,217	9.39
85	.063385	53,874	3,415	52,167	412,326	7.65	85	.049016	64,352	3,154	62,775	565,430	8.79
86	.071750	50,459	3,620	48,649	360,159	7.14	86	.055888	61,197	3,420	59,487	502,655	8.21
87	.080356	46,839	3,764	44,957	311,510	6.65	87	.063210	57,777	3,652	55,951	443,168	7.67
88	.091476	43,075	3,940	41,105	266,553	6.19	88	.072782	54,125	3,939	52,155	387,217	7.15
89	.102818	39,135	4,024	37,123	225,449	5.76	89	.082917	50,186	4,161	48,105	335,061	6.68
90	.116565	35,111	4,093	33,065	188,326	5.36	90	.094842	46,025	4,365	43,842	286,956	6.23
91	.127262	31,018	3,947	29,044	155,261	5.01	91	.104072	41,659	4,336	39,492	243,114	5.84
92	.138673	27,071	3,754	25,194	126,217	4.66	92	.113477	37,324	4,235	35,206	203,622	5.46
93	.153165	23,317	3,571	21,531	101,023	4.33	93	.125484	33,088	4,152	31,012	168,416	5.09
94	.168920	19,745	3,335	18,078	79,492	4.03	94	.138360	28,936	4,004	26,935	137,404	4.75
95	.185949	16,410	3,051	14,884	61,414	3.74	95	.152215	24,933	3,795	23,035	110,469	4.43
96	.204339	13,359	2,730	11,994	46,530	3.48	96	.167081	21,138	3,532	19,372	87,434	4.14
97	.224159	10,629	2,383	9,438	34,536	3.25	97	.182983	17,606	3,222	15,995	68,062	3.87
98	.241076	8,246	1,988	7,252	25,098	3.04	98	.198113	14,384	2,850	12,959	52,067	3.62
99	.258823	6,258	1,620	5,448	17,846	2.85	99	.214015	11,535	2,469	10,300	39,108	3.39
100	.277406	4,639	1,287	3,995	12,397	2.67	100	.230661	9,066	2,091	8,020	28,807	3.18
101	.296811	3,352	995	2,854	8,402	2.51	101	.248035	6,975	1,730	6,110	20,787	2.98
102	.317014	2,357	747	1,983	5,548	2.35	102	.266120	5,245	1,396	4,547	14,677	2.80
103	.337992	1,610	544	1,338	3,565	2.21	103	.284853	3,849	1,096	3,301	10,130	2.63
104	.359709	1,066	383	874	2,227	2.09	104	.304216	2,753	837	2,334	6,829	2.48
105	.382121	682	261	552	1,353	1.98	105	.324153	1,915	621	1,605	4,495	2.35
106	.397987	422	168	338	801	1.90	106	.341180	1,294	442	1,074	2,890	2.23
107	.413398	254	105	201	463	1.82	107	.357855	853	305	700	1,817	2.13
108	.428254	149	64	117	262	1.76	108	.374041	548	205	445	1,116	2.04
109	.442452	85	38	66	145	1.70	109	.389602	343	134	276	671	1.96
110	.453822	47	22	37	78	1.65	110	.403162	209	84	167	395	1.89
111	.464239	26	12	20	42	1.61	111	.415746	125	52	99	228	1.83
112	.473628	14	7	11	22	1.57	112	.427236	73	31	57	129	1.77
113	.481917	7	4	6	11	1.54	113	.437520	42	18	33	72	1.72
114	.489043	4	2	3	6	1.51	114	.446498	24	10	18	39	1.67
115	.494951	2	1	1	3	1.47	115	.454079	13	6	10	21	1.62
116	.499594	1	0	1	1	1.42	116	.460188	7	3	5	11	1.54
117	.502937	0	0	0	1	1.33	117	.464761	4	2	3	5	1.43
118	.504952	0	0	0	0	1.18	118	.467752	2	1	2	3	1.24
119	.505624	0	0	0	0	0.87	119	.469130	1	1	1	1	0.89
120	.504947	0	0	0	0	0.25	120	.468879	1	0	0	0	0.23

Born in 1990

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.007494	100,000	749	99,400	8,306,875	83.07	0	.006110	100,000	611	99,511	8,640,385	86.40
1	.000522	99,251	52	99,225	8,207,474	82.69	1	.000463	99,389	46	99,366	8,540,874	85.93
2	.000389	99,199	39	99,179	8,108,250	81.74	2	.000287	99,343	29	99,329	8,441,508	84.97
3	.000313	99,160	31	99,145	8,009,070	80.77	3	.000234	99,314	23	99,303	8,342,179	84.00
4	.000227	99,129	22	99,118	7,909,926	79.79	4	.000198	99,291	20	99,281	8,242,876	83.02
5	.000174	99,107	17	99,098	7,810,808	78.81	5	.000172	99,272	17	99,263	8,143,595	82.03
6	.000134	99,089	13	99,083	7,711,710	77.83	6	.000140	99,255	14	99,248	8,044,332	81.05
7	.000110	99,076	11	99,071	7,612,627	76.84	7	.000090	99,241	9	99,236	7,945,084	80.06
8	.000092	99,065	9	99,061	7,513,556	75.84	8	.000087	99,232	9	99,227	7,845,848	79.07
9	.000090	99,056	9	99,052	7,414,495	74.85	9	.000081	99,223	8	99,219	7,746,620	78.07
10	.000108	99,047	11	99,042	7,315,444	73.86	10	.000098	99,215	10	99,210	7,647,401	77.08
11	.000103	99,037	10	99,032	7,216,402	72.87	11	.000096	99,205	10	99,201	7,548,191	76.09
12	.000148	99,026	15	99,019	7,117,370	71.87	12	.000137	99,196	14	99,189	7,448,990	75.09
13	.000223	99,012	22	99,001	7,018,351	70.88	13	.000164	99,182	16	99,174	7,349,801	74.10
14	.000325	98,990	32	98,974	6,919,350	69.90	14	.000201	99,166	20	99,156	7,250,627	73.12
15	.000425	98,958	42	98,937	6,820,376	68.92	15	.000231	99,146	23	99,135	7,151,471	72.13
16	.000507	98,916	50	98,891	6,721,440	67.95	16	.000264	99,123	26	99,110	7,052,337	71.15
17	.000567	98,865	56	98,837	6,622,549	66.99	17	.000285	99,097	28	99,083	6,953,227	70.17
18	.000598	98,809	59	98,780	6,523,712	66.02	18	.000298	99,069	30	99,054	6,854,144	69.19
19	.000630	98,750	62	98,719	6,424,932	65.06	19	.000303	99,039	30	99,024	6,755,090	68.21
20	.000645	98,688	64	98,656	6,326,213	64.10	20	.000296	99,009	29	98,995	6,656,066	67.23
21	.000653	98,624	64	98,592	6,227,557	63.14	21	.000293	98,980	29	98,965	6,557,071	66.25
22	.000657	98,560	65	98,528	6,128,964	62.19	22	.000288	98,951	28	98,937	6,458,106	65.27
23	.000639	98,495	63	98,464	6,030,437	61.23	23	.000273	98,922	27	98,909	6,359,169	64.28
24	.000604	98,432	59	98,403	5,931,973	60.26	24	.000270	98,895	27	98,882	6,260,260	63.30
25	.000574	98,373	56	98,345	5,833,571	59.30	25	.000266	98,869	26	98,856	6,161,378	62.32
26	.000545	98,316	54	98,290	5,735,226	58.33	26	.000262	98,842	26	98,829	6,062,523	61.34
27	.000521	98,263	51	98,237	5,636,936	57.37	27	.000256	98,816	25	98,804	5,963,693	60.35
28	.000524	98,212	51	98,186	5,538,699	56.40	28	.000272	98,791	27	98,778	5,864,890	59.37
29	.000526	98,160	52	98,134	5,440,513	55.42	29	.000288	98,764	28	98,750	5,766,112	58.38
30	.000542	98,109	53	98,082	5,342,379	54.45	30	.000302	98,736	30	98,721	5,667,362	57.40
31	.000548	98,055	54	98,029	5,244,297	53.48	31	.000326	98,706	32	98,690	5,568,641	56.42
32	.000570	98,002	56	97,974	5,146,268	52.51	32	.000356	98,674	35	98,656	5,469,951	55.43
33	.000594	97,946	58	97,917	5,048,295	51.54	33	.000383	98,639	38	98,620	5,371,294	54.45
34	.000627	97,888	61	97,857	4,950,378	50.57	34	.000419	98,601	41	98,580	5,272,674	53.47
35	.000661	97,826	65	97,794	4,852,521	49.60	35	.000461	98,560	45	98,537	5,174,094	52.50
36	.000702	97,762	69	97,727	4,754,727	48.64	36	.000505	98,514	50	98,490	5,075,556	51.52
37	.000751	97,693	73	97,656	4,657,000	47.67	37	.000552	98,465	54	98,438	4,977,067	50.55
38	.000823	97,620	80	97,579	4,559,344	46.71	38	.000592	98,410	58	98,381	4,878,629	49.57
39	.000899	97,539	88	97,495	4,461,764	45.74	39	.000636	98,352	63	98,321	4,780,248	48.60
40	.000990	97,452	96	97,403	4,364,269	44.78	40	.000687	98,289	67	98,256	4,681,927	47.63
41	.001090	97,355	106	97,302	4,266,866	43.83	41	.000734	98,222	72	98,186	4,583,672	46.67
42	.001205	97,249	117	97,190	4,169,564	42.88	42	.000801	98,150	79	98,111	4,485,486	45.70
43	.001317	97,132	128	97,068	4,072,373	41.93	43	.000861	98,071	84	98,029	4,387,375	44.74
44	.001432	97,004	139	96,934	3,975,305	40.98	44	.000919	97,987	90	97,942	4,289,346	43.77
45	.001560	96,865	151	96,789	3,878,371	40.04	45	.000979	97,897	96	97,849	4,191,404	42.81
46	.001697	96,714	164	96,632	3,781,582	39.10	46	.001053	97,801	103	97,749	4,093,555	41.86
47	.001845	96,550	178	96,461	3,684,950	38.17	47	.001132	97,698	111	97,643	3,995,806	40.90
48	.001978	96,372	191	96,276	3,588,489	37.24	48	.001243	97,587	121	97,527	3,898,163	39.95
49	.002118	96,181	204	96,079	3,492,213	36.31	49	.001355	97,466	132	97,400	3,800,637	38.99
50	.002270	95,977	218	95,868	3,396,134	35.38	50	.001483	97,334	144	97,262	3,703,237	38.05
51	.002443	95,759	234	95,642	3,300,266	34.46	51	.001629	97,190	158	97,110	3,605,975	37.10
52	.002651	95,525	253	95,399	3,204,623	33.55	52	.001791	97,031	174	96,944	3,508,865	36.16
53	.002896	95,272	276	95,134	3,109,225	32.64	53	.001977	96,858	191	96,762	3,411,920	35.23
54	.003174	94,996	302	94,845	3,014,090	31.73	54	.002182	96,666	211	96,561	3,315,158	34.29
55	.003466	94,695	328	94,531	2,919,245	30.83	55	.002403	96,455	232	96,339	3,218,598	33.37
56	.003792	94,366	358	94,188	2,824,714	29.93	56	.002643	96,223	254	96,096	3,122,258	32.45
57	.004151	94,009	390	93,814	2,730,527	29.05	57	.002898	95,969	278	95,830	3,026,162	31.53
58	.004549	93,618	426	93,406	2,636,713	28.16	58	.003171	95,691	303	95,539	2,930,332	30.62
59	.004961	93,193	462	92,961	2,543,308	27.29	59	.003442	95,387	328	95,223	2,834,793	29.72

Born in 1990 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.005397	92,730	501	92,480	2,450,346	26.42	60	.003746	95,059	356	94,881	2,739,570	28.82
61	.005881	92,230	542	91,959	2,357,866	25.57	61	.004075	94,703	386	94,510	2,644,689	27.93
62	.006414	91,687	588	91,393	2,265,908	24.71	62	.004464	94,317	421	94,107	2,550,178	27.04
63	.006974	91,099	635	90,782	2,174,515	23.87	63	.004890	93,896	459	93,667	2,456,072	26.16
64	.007554	90,464	683	90,122	2,083,733	23.03	64	.005349	93,437	500	93,187	2,362,405	25.28
65	.007809	89,781	701	89,430	1,993,611	22.21	65	.005717	92,937	531	92,672	2,269,218	24.42
66	.008486	89,079	756	88,701	1,904,181	21.38	66	.006269	92,406	579	92,116	2,176,547	23.55
67	.009214	88,324	814	87,917	1,815,479	20.55	67	.006880	91,827	632	91,511	2,084,430	22.70
68	.010136	87,510	887	87,066	1,727,563	19.74	68	.007494	91,195	683	90,853	1,992,920	21.85
69	.011109	86,623	962	86,142	1,640,496	18.94	69	.008140	90,511	737	90,143	1,902,066	21.01
70	.012183	85,660	1,044	85,139	1,554,355	18.15	70	.008844	89,775	794	89,378	1,811,923	20.18
71	.013399	84,617	1,134	84,050	1,469,216	17.36	71	.009658	88,981	859	88,551	1,722,546	19.36
72	.014809	83,483	1,236	82,865	1,385,166	16.59	72	.010608	88,121	935	87,654	1,633,995	18.54
73	.016345	82,247	1,344	81,575	1,302,301	15.83	73	.011661	87,186	1,017	86,678	1,546,341	17.74
74	.018004	80,903	1,457	80,174	1,220,726	15.09	74	.012786	86,170	1,102	85,619	1,459,663	16.94
75	.019830	79,446	1,575	78,658	1,140,552	14.36	75	.014042	85,068	1,195	84,471	1,374,044	16.15
76	.021878	77,871	1,704	77,019	1,061,894	13.64	76	.015492	83,874	1,299	83,224	1,289,573	15.38
77	.024189	76,167	1,842	75,246	984,875	12.93	77	.017190	82,574	1,419	81,864	1,206,349	14.61
78	.026957	74,324	2,004	73,323	909,629	12.24	78	.019187	81,155	1,557	80,376	1,124,485	13.86
79	.029942	72,321	2,165	71,238	836,307	11.56	79	.021318	79,598	1,697	78,749	1,044,109	13.12
80	.033252	70,155	2,333	68,989	765,069	10.91	80	.023729	77,901	1,848	76,977	965,359	12.39
81	.036980	67,823	2,508	66,569	696,080	10.26	81	.026570	76,052	2,021	75,042	888,383	11.68
82	.041228	65,315	2,693	63,968	629,511	9.64	82	.029974	74,032	2,219	72,922	813,341	10.99
83	.046696	62,622	2,924	61,160	565,543	9.03	83	.034595	71,813	2,484	70,570	740,419	10.31
84	.052715	59,698	3,147	58,124	504,383	8.45	84	.039941	69,328	2,769	67,944	669,848	9.66
85	.059566	56,551	3,368	54,866	446,259	7.89	85	.045943	66,559	3,058	65,030	601,905	9.04
86	.067546	53,182	3,592	51,386	391,393	7.36	86	.052500	63,501	3,334	61,834	536,874	8.45
87	.075802	49,590	3,759	47,710	340,007	6.86	87	.059521	60,167	3,581	58,377	475,040	7.90
88	.086849	45,831	3,980	43,841	292,296	6.38	88	.069011	56,586	3,905	54,634	416,663	7.36
89	.098227	41,851	4,111	39,795	248,456	5.94	89	.079114	52,681	4,168	50,597	362,029	6.87
90	.112173	37,740	4,233	35,623	208,660	5.53	90	.091157	48,513	4,422	46,302	311,432	6.42
91	.122501	33,506	4,105	31,454	173,037	5.16	91	.100066	44,091	4,412	41,885	265,130	6.01
92	.133523	29,402	3,926	27,439	141,583	4.82	92	.109162	39,679	4,331	37,513	223,245	5.63
93	.147384	25,476	3,755	23,599	114,145	4.48	93	.120683	35,348	4,266	33,215	185,731	5.25
94	.162450	21,721	3,529	19,957	90,546	4.17	94	.133038	31,082	4,135	29,014	152,517	4.91
95	.178731	18,193	3,252	16,567	70,589	3.88	95	.146328	26,947	3,943	24,975	123,503	4.58
96	.196312	14,941	2,933	13,474	54,022	3.62	96	.160586	23,004	3,694	21,157	98,527	4.28
97	.215254	12,008	2,585	10,716	40,548	3.38	97	.175833	19,310	3,395	17,612	77,371	4.01
98	.231490	9,423	2,181	8,332	29,832	3.17	98	.190371	15,914	3,030	14,399	59,759	3.76
99	.248524	7,242	1,800	6,342	21,500	2.97	99	.205649	12,885	2,650	11,560	45,359	3.52
100	.266364	5,442	1,450	4,717	15,158	2.79	100	.221642	10,235	2,268	9,101	33,800	3.30
101	.284997	3,992	1,138	3,424	10,441	2.62	101	.238334	7,966	1,899	7,017	24,699	3.10
102	.304398	2,855	869	2,420	7,017	2.46	102	.255708	6,068	1,552	5,292	17,682	2.91
103	.324548	1,986	644	1,663	4,597	2.32	103	.273703	4,516	1,236	3,898	12,390	2.74
104	.345414	1,341	463	1,110	2,933	2.19	104	.292303	3,280	959	2,801	8,492	2.59
105	.366953	878	322	717	1,824	2.08	105	.311454	2,321	723	1,960	5,691	2.45
106	.382209	556	212	450	1,107	1.99	106	.327810	1,598	524	1,336	3,731	2.33
107	.397029	343	136	275	657	1.91	107	.343828	1,074	369	890	2,395	2.23
108	.411316	207	85	164	382	1.85	108	.359377	705	253	578	1,505	2.13
109	.424974	122	52	96	218	1.79	109	.374325	452	169	367	927	2.05
110	.435909	70	31	55	122	1.74	110	.387348	283	109	228	560	1.98
111	.445931	40	18	31	67	1.69	111	.399433	173	69	139	332	1.92
112	.454963	22	10	17	36	1.65	112	.410468	104	43	83	193	1.86
113	.462938	12	6	9	19	1.62	113	.420345	61	26	48	111	1.80
114	.469795	6	3	5	10	1.58	114	.428967	36	15	28	62	1.75
115	.475480	3	2	3	5	1.54	115	.436247	20	9	16	34	1.69
116	.479949	2	1	1	3	1.48	116	.442114	11	5	9	18	1.60
117	.483167	1	0	1	1	1.38	117	.446505	6	3	5	9	1.48
118	.485108	0	0	0	1	1.21	118	.449377	4	2	3	4	1.27
119	.485757	0	0	0	0	0.88	119	.450699	2	1	2	2	0.90
120	.485109	0	0	0	0	0.24	120	.450458	1	0	0	0	0.23

Born in 2000

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.005992	100,000	599	99,521	8,397,244	83.97	0	.004900	100,000	490	99,608	8,717,656	87.18
1	.000367	99,401	36	99,383	8,297,723	83.48	1	.000353	99,510	35	99,492	8,618,048	86.60
2	.000196	99,364	19	99,355	8,198,341	82.51	2	.000200	99,475	20	99,465	8,518,556	85.64
3	.000201	99,345	20	99,335	8,098,986	81.52	3	.000151	99,455	15	99,448	8,419,091	84.65
4	.000201	99,325	20	99,315	7,999,651	80.54	4	.000118	99,440	12	99,434	8,319,643	83.66
5	.000168	99,305	17	99,297	7,900,336	79.56	5	.000085	99,428	8	99,424	8,220,209	82.67
6	.000125	99,288	12	99,282	7,801,040	78.57	6	.000066	99,420	7	99,417	8,120,785	81.68
7	.000080	99,276	8	99,272	7,701,758	77.58	7	.000060	99,413	6	99,410	8,021,368	80.69
8	.000071	99,268	7	99,264	7,602,486	76.59	8	.000058	99,407	6	99,404	7,921,958	79.69
9	.000068	99,261	7	99,257	7,503,221	75.59	9	.000057	99,401	6	99,399	7,822,554	78.70
10	.000081	99,254	8	99,250	7,403,964	74.60	10	.000073	99,396	7	99,392	7,723,155	77.70
11	.000077	99,246	8	99,242	7,304,714	73.60	11	.000073	99,388	7	99,385	7,623,763	76.71
12	.000108	99,238	11	99,233	7,205,472	72.61	12	.000106	99,381	10	99,376	7,524,378	75.71
13	.000162	99,228	16	99,220	7,106,239	71.62	13	.000128	99,371	13	99,364	7,425,002	74.72
14	.000234	99,212	23	99,200	7,007,019	70.63	14	.000159	99,358	16	99,350	7,325,638	73.73
15	.000311	99,188	31	99,173	6,907,819	69.64	15	.000189	99,342	19	99,333	7,226,288	72.74
16	.000377	99,158	37	99,139	6,808,646	68.66	16	.000221	99,323	22	99,312	7,126,955	71.76
17	.000429	99,120	43	99,099	6,709,507	67.69	17	.000243	99,302	24	99,289	7,027,643	70.77
18	.000463	99,078	46	99,055	6,610,408	66.72	18	.000257	99,277	26	99,265	6,928,353	69.79
19	.000499	99,032	49	99,007	6,511,353	65.75	19	.000263	99,252	26	99,239	6,829,088	68.81
20	.000521	98,982	52	98,957	6,412,346	64.78	20	.000260	99,226	26	99,213	6,729,850	67.82
21	.000538	98,931	53	98,904	6,313,390	63.82	21	.000259	99,200	26	99,187	6,630,637	66.84
22	.000551	98,878	54	98,850	6,214,485	62.85	22	.000256	99,174	25	99,162	6,531,450	65.86
23	.000537	98,823	53	98,797	6,115,635	61.88	23	.000243	99,149	24	99,137	6,432,288	64.88
24	.000510	98,770	50	98,745	6,016,838	60.92	24	.000240	99,125	24	99,113	6,333,151	63.89
25	.000487	98,720	48	98,696	5,918,093	59.95	25	.000237	99,101	23	99,089	6,234,038	62.91
26	.000465	98,672	46	98,649	5,819,398	58.98	26	.000233	99,077	23	99,066	6,134,949	61.92
27	.000448	98,626	44	98,604	5,720,749	58.00	27	.000228	99,054	23	99,043	6,035,883	60.94
28	.000456	98,582	45	98,559	5,622,145	57.03	28	.000244	99,032	24	99,020	5,936,840	59.95
29	.000463	98,537	46	98,514	5,523,586	56.06	29	.000260	99,008	26	98,995	5,837,821	58.96
30	.000482	98,491	47	98,467	5,425,072	55.08	30	.000275	98,982	27	98,968	5,738,826	57.98
31	.000493	98,444	49	98,419	5,326,605	54.11	31	.000298	98,955	29	98,940	5,639,858	56.99
32	.000517	98,395	51	98,370	5,228,185	53.13	32	.000327	98,925	32	98,909	5,540,918	56.01
33	.000544	98,344	53	98,317	5,129,816	52.16	33	.000354	98,893	35	98,875	5,442,009	55.03
34	.000578	98,291	57	98,262	5,031,498	51.19	34	.000388	98,858	38	98,839	5,343,134	54.05
35	.000613	98,234	60	98,204	4,933,236	50.22	35	.000428	98,819	42	98,798	5,244,295	53.07
36	.000652	98,174	64	98,142	4,835,032	49.25	36	.000470	98,777	46	98,754	5,145,497	52.09
37	.000700	98,110	69	98,075	4,736,890	48.28	37	.000514	98,731	51	98,705	5,046,743	51.12
38	.000768	98,041	75	98,003	4,638,815	47.32	38	.000552	98,680	54	98,653	4,948,037	50.14
39	.000838	97,966	82	97,925	4,540,812	46.35	39	.000593	98,626	58	98,596	4,849,384	49.17
40	.000922	97,884	90	97,839	4,442,887	45.39	40	.000639	98,567	63	98,536	4,750,788	48.20
41	.001015	97,793	99	97,744	4,345,048	44.43	41	.000684	98,504	67	98,470	4,652,253	47.23
42	.001122	97,694	110	97,639	4,247,304	43.48	42	.000746	98,437	73	98,400	4,553,782	46.26
43	.001225	97,585	120	97,525	4,149,665	42.52	43	.000803	98,363	79	98,324	4,455,382	45.30
44	.001332	97,465	130	97,400	4,052,140	41.58	44	.000858	98,284	84	98,242	4,357,058	44.33
45	.001450	97,335	141	97,265	3,954,740	40.63	45	.000916	98,200	90	98,155	4,258,816	43.37
46	.001578	97,194	153	97,117	3,857,475	39.69	46	.000987	98,110	97	98,062	4,160,661	42.41
47	.001716	97,041	166	96,957	3,760,358	38.75	47	.001061	98,013	104	97,961	4,062,600	41.45
48	.001839	96,874	178	96,785	3,663,401	37.82	48	.001164	97,909	114	97,852	3,964,638	40.49
49	.001971	96,696	191	96,601	3,566,616	36.88	49	.001268	97,795	124	97,733	3,866,786	39.54
50	.002112	96,505	204	96,404	3,470,015	35.96	50	.001387	97,671	135	97,603	3,769,053	38.59
51	.002274	96,302	219	96,192	3,373,611	35.03	51	.001523	97,536	149	97,461	3,671,450	37.64
52	.002468	96,083	237	95,964	3,277,419	34.11	52	.001672	97,387	163	97,306	3,573,988	36.70
53	.002697	95,845	258	95,716	3,181,455	33.19	53	.001845	97,224	179	97,135	3,476,682	35.76
54	.002956	95,587	283	95,446	3,085,739	32.28	54	.002037	97,045	198	96,946	3,379,548	34.82
55	.003228	95,304	308	95,151	2,990,293	31.38	55	.002242	96,847	217	96,739	3,282,602	33.89
56	.003531	94,997	335	94,829	2,895,143	30.48	56	.002464	96,630	238	96,511	3,185,863	32.97
57	.003866	94,661	366	94,478	2,800,314	29.58	57	.002702	96,392	260	96,262	3,089,352	32.05
58	.004237	94,295	399	94,096	2,705,835	28.70	58	.002955	96,132	284	95,990	2,993,090	31.14
59	.004620	93,896	434	93,679	2,611,740	27.82	59	.003207	95,848	307	95,694	2,897,100	30.23

Born in 2000 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.005028	93,462	470	93,227	2,518,060	26.94	60	.003489	95,540	333	95,373	2,801,406	29.32
61	.005479	92,992	509	92,738	2,424,833	26.08	61	.003795	95,207	361	95,026	2,706,033	28.42
62	.005976	92,483	553	92,206	2,332,096	25.22	62	.004157	94,845	394	94,648	2,611,007	27.53
63	.006498	91,930	597	91,631	2,239,889	24.37	63	.004553	94,451	430	94,236	2,516,359	26.64
64	.007038	91,333	643	91,011	2,148,258	23.52	64	.004979	94,021	468	93,787	2,422,122	25.76
65	.007283	90,690	661	90,360	2,057,247	22.68	65	.005319	93,553	498	93,304	2,328,335	24.89
66	.007915	90,029	713	89,673	1,966,887	21.85	66	.005832	93,055	543	92,784	2,235,031	24.02
67	.008595	89,317	768	88,933	1,877,214	21.02	67	.006400	92,513	592	92,217	2,142,247	23.16
68	.009456	88,549	837	88,131	1,788,281	20.20	68	.006973	91,921	641	91,600	2,050,030	22.30
69	.010364	87,712	909	87,257	1,700,150	19.38	69	.007575	91,280	691	90,934	1,958,430	21.46
70	.011367	86,803	987	86,309	1,612,893	18.58	70	.008232	90,588	746	90,215	1,867,496	20.62
71	.012502	85,816	1,073	85,280	1,526,583	17.79	71	.008992	89,843	808	89,439	1,777,281	19.78
72	.013818	84,743	1,171	84,158	1,441,304	17.01	72	.009877	89,035	879	88,595	1,687,842	18.96
73	.015252	83,572	1,275	82,935	1,357,146	16.24	73	.010858	88,155	957	87,677	1,599,247	18.14
74	.016801	82,298	1,383	81,606	1,274,211	15.48	74	.011907	87,198	1,038	86,679	1,511,570	17.33
75	.018507	80,915	1,498	80,166	1,192,604	14.74	75	.013076	86,160	1,127	85,597	1,424,891	16.54
76	.020421	79,417	1,622	78,607	1,112,438	14.01	76	.014427	85,033	1,227	84,420	1,339,295	15.75
77	.022582	77,796	1,757	76,917	1,033,832	13.29	77	.016009	83,806	1,342	83,136	1,254,875	14.97
78	.025166	76,039	1,914	75,082	956,914	12.58	78	.017872	82,465	1,474	81,728	1,171,739	14.21
79	.027954	74,125	2,072	73,089	881,832	11.90	79	.019858	80,991	1,608	80,187	1,090,012	13.46
80	.031045	72,053	2,237	70,935	808,743	11.22	80	.022106	79,383	1,755	78,505	1,009,825	12.72
81	.034525	69,816	2,410	68,611	737,808	10.57	81	.024754	77,628	1,922	76,667	931,320	12.00
82	.038488	67,406	2,594	66,109	669,197	9.93	82	.027925	75,706	2,114	74,649	854,653	11.29
83	.043680	64,812	2,831	63,396	603,088	9.31	83	.032297	73,592	2,377	72,404	780,004	10.60
84	.049408	61,981	3,062	60,449	539,692	8.71	84	.037361	71,215	2,661	69,885	707,600	9.94
85	.055937	58,918	3,296	57,270	479,243	8.13	85	.043063	68,555	2,952	67,078	637,715	9.30
86	.063549	55,623	3,535	53,855	421,972	7.59	86	.049317	65,602	3,235	63,985	570,637	8.70
87	.071461	52,088	3,722	50,227	368,117	7.07	87	.056047	62,367	3,495	60,619	506,652	8.12
88	.082421	48,366	3,986	46,372	317,890	6.57	88	.065437	58,872	3,852	56,945	446,033	7.58
89	.093794	44,379	4,163	42,298	271,518	6.12	89	.075484	55,019	4,153	52,943	389,087	7.07
90	.107885	40,217	4,339	38,047	229,220	5.70	90	.087614	50,866	4,457	48,638	336,145	6.61
91	.117839	35,878	4,228	33,764	191,173	5.33	91	.096211	46,410	4,465	44,177	287,507	6.19
92	.128466	31,650	4,066	29,617	157,408	4.97	92	.105005	41,944	4,404	39,742	243,330	5.80
93	.141743	27,584	3,910	25,629	127,791	4.63	93	.116060	37,540	4,357	35,362	203,587	5.42
94	.156172	23,674	3,697	21,826	102,162	4.32	94	.127915	33,183	4,245	31,061	168,226	5.07
95	.171765	19,977	3,431	18,261	80,336	4.02	95	.140665	28,939	4,071	26,903	137,165	4.74
96	.188601	16,546	3,121	14,985	62,075	3.75	96	.154340	24,868	3,838	22,949	110,262	4.43
97	.206736	13,425	2,775	12,037	47,090	3.51	97	.168961	21,030	3,553	19,253	87,313	4.15
98	.222323	10,650	2,368	9,466	35,052	3.29	98	.182930	17,477	3,197	15,878	68,060	3.89
99	.238678	8,282	1,977	7,294	25,586	3.09	99	.197609	14,280	2,822	12,869	52,181	3.65
100	.255809	6,305	1,613	5,499	18,293	2.90	100	.212974	11,458	2,440	10,238	39,313	3.43
101	.273702	4,692	1,284	4,050	12,794	2.73	101	.229011	9,018	2,065	7,985	29,075	3.22
102	.292337	3,408	996	2,910	8,744	2.57	102	.245701	6,952	1,708	6,098	21,090	3.03
103	.311693	2,412	752	2,036	5,834	2.42	103	.262989	5,244	1,379	4,555	14,992	2.86
104	.331740	1,660	551	1,385	3,798	2.29	104	.280855	3,865	1,086	3,322	10,437	2.70
105	.352438	1,109	391	914	2,413	2.18	105	.299250	2,780	832	2,364	7,115	2.56
106	.367103	718	264	587	1,499	2.09	106	.314963	1,948	613	1,641	4,751	2.44
107	.381350	455	173	368	913	2.01	107	.330350	1,334	441	1,114	3,110	2.33
108	.395086	281	111	226	545	1.94	108	.345286	894	309	739	1,996	2.23
109	.408217	170	69	135	319	1.88	109	.359646	585	210	480	1,257	2.15
110	.418731	101	42	80	184	1.82	110	.372153	375	139	305	777	2.07
111	.428367	59	25	46	104	1.78	111	.383760	235	90	190	472	2.01
112	.437052	33	15	26	58	1.74	112	.394358	145	57	116	282	1.95
113	.444721	19	8	15	32	1.70	113	.403843	88	35	70	166	1.89
114	.451316	10	5	8	17	1.66	114	.412123	52	22	42	96	1.83
115	.456783	6	3	4	9	1.61	115	.419115	31	13	24	54	1.76
116	.461082	3	1	2	5	1.54	116	.424749	18	8	14	30	1.67
117	.464178	2	1	1	2	1.43	117	.428966	10	4	8	16	1.53
118	.466046	1	0	1	1	1.24	118	.431723	6	3	5	8	1.30
119	.466672	0	0	0	0	0.89	119	.432993	3	1	3	3	0.91
120	.466050	0	0	0	0	0.23	120	.432761	2	1	0	0	0.22

Born in 2010

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.004969	100,000	497	99,602	8,475,450	84.75	0	.004151	100,000	415	99,668	8,785,415	87.85
1	.000283	99,503	28	99,489	8,375,848	84.18	1	.000285	99,585	28	99,571	8,685,747	87.22
2	.000140	99,475	14	99,468	8,276,359	83.20	2	.000152	99,557	15	99,549	8,586,176	86.24
3	.000143	99,461	14	99,454	8,176,891	82.21	3	.000110	99,542	11	99,536	8,486,627	85.26
4	.000142	99,447	14	99,440	8,077,437	81.22	4	.000082	99,531	8	99,526	8,387,091	84.27
5	.000121	99,433	12	99,427	7,977,997	80.24	5	.000059	99,522	6	99,519	8,287,564	83.27
6	.000092	99,421	9	99,416	7,878,570	79.24	6	.000045	99,516	4	99,514	8,188,045	82.28
7	.000061	99,412	6	99,409	7,779,154	78.25	7	.000040	99,512	4	99,510	8,088,531	81.28
8	.000054	99,406	5	99,403	7,679,746	77.26	8	.000041	99,508	4	99,506	7,989,021	80.29
9	.000052	99,400	5	99,398	7,580,343	76.26	9	.000042	99,504	4	99,502	7,889,515	79.29
10	.000063	99,395	6	99,392	7,480,945	75.26	10	.000056	99,500	6	99,497	7,790,013	78.29
11	.000060	99,389	6	99,386	7,381,553	74.27	11	.000058	99,494	6	99,491	7,690,516	77.30
12	.000085	99,383	8	99,379	7,282,167	73.27	12	.000087	99,488	9	99,484	7,591,024	76.30
13	.000130	99,374	13	99,368	7,182,789	72.28	13	.000109	99,480	11	99,474	7,491,540	75.31
14	.000191	99,362	19	99,352	7,083,421	71.29	14	.000137	99,469	14	99,462	7,392,066	74.32
15	.000259	99,343	26	99,330	6,984,069	70.30	15	.000166	99,455	16	99,447	7,292,604	73.33
16	.000319	99,317	32	99,301	6,884,739	69.32	16	.000196	99,439	20	99,429	7,193,157	72.34
17	.000369	99,285	37	99,267	6,785,438	68.34	17	.000218	99,419	22	99,408	7,093,728	71.35
18	.000404	99,249	40	99,228	6,686,171	67.37	18	.000233	99,398	23	99,386	6,994,319	70.37
19	.000442	99,208	44	99,187	6,586,942	66.39	19	.000240	99,375	24	99,363	6,894,933	69.38
20	.000467	99,165	46	99,141	6,487,756	65.42	20	.000238	99,351	24	99,339	6,795,570	68.40
21	.000487	99,118	48	99,094	6,388,614	64.45	21	.000238	99,327	24	99,315	6,696,232	67.42
22	.000503	99,070	50	99,045	6,289,520	63.49	22	.000237	99,303	24	99,292	6,596,916	66.43
23	.000493	99,020	49	98,996	6,190,475	62.52	23	.000225	99,280	22	99,269	6,497,625	65.45
24	.000470	98,971	47	98,948	6,091,479	61.55	24	.000223	99,257	22	99,246	6,398,356	64.46
25	.000451	98,925	45	98,903	5,992,531	60.58	25	.000220	99,235	22	99,224	6,299,110	63.48
26	.000432	98,880	43	98,859	5,893,629	59.60	26	.000217	99,214	22	99,203	6,199,885	62.49
27	.000417	98,837	41	98,817	5,794,770	58.63	27	.000213	99,192	21	99,181	6,100,682	61.50
28	.000425	98,796	42	98,775	5,695,953	57.65	28	.000228	99,171	23	99,160	6,001,501	60.52
29	.000432	98,754	43	98,733	5,597,178	56.68	29	.000243	99,148	24	99,136	5,902,341	59.53
30	.000450	98,712	44	98,689	5,498,445	55.70	30	.000257	99,124	25	99,111	5,803,205	58.54
31	.000460	98,667	45	98,645	5,399,756	54.73	31	.000278	99,099	28	99,085	5,704,094	57.56
32	.000482	98,622	48	98,598	5,301,111	53.75	32	.000305	99,071	30	99,056	5,605,009	56.58
33	.000507	98,574	50	98,549	5,202,513	52.78	33	.000330	99,041	33	99,025	5,505,953	55.59
34	.000539	98,524	53	98,498	5,103,963	51.80	34	.000362	99,008	36	98,990	5,406,928	54.61
35	.000571	98,471	56	98,443	5,005,465	50.83	35	.000399	98,972	39	98,953	5,307,938	53.63
36	.000608	98,415	60	98,385	4,907,022	49.86	36	.000438	98,933	43	98,911	5,208,985	52.65
37	.000653	98,355	64	98,323	4,808,637	48.89	37	.000479	98,890	47	98,866	5,110,074	51.67
38	.000716	98,291	70	98,256	4,710,314	47.92	38	.000515	98,842	51	98,817	5,011,208	50.70
39	.000781	98,221	77	98,182	4,612,058	46.96	39	.000553	98,791	55	98,764	4,912,391	49.72
40	.000859	98,144	84	98,102	4,513,876	45.99	40	.000596	98,737	59	98,707	4,813,627	48.75
41	.000946	98,060	93	98,013	4,415,774	45.03	41	.000638	98,678	63	98,646	4,714,920	47.78
42	.001046	97,967	102	97,916	4,317,760	44.07	42	.000696	98,615	69	98,581	4,616,274	46.81
43	.001143	97,864	112	97,809	4,219,845	43.12	43	.000748	98,546	74	98,509	4,517,693	45.84
44	.001243	97,753	121	97,692	4,122,036	42.17	44	.000800	98,473	79	98,433	4,419,184	44.88
45	.001353	97,631	132	97,565	4,024,344	41.22	45	.000853	98,394	84	98,352	4,320,750	43.91
46	.001472	97,499	144	97,427	3,926,779	40.28	46	.000918	98,310	90	98,265	4,222,398	42.95
47	.001600	97,356	156	97,278	3,829,352	39.33	47	.000987	98,220	97	98,171	4,124,134	41.99
48	.001715	97,200	167	97,116	3,732,074	38.40	48	.001083	98,123	106	98,070	4,025,962	41.03
49	.001838	97,033	178	96,944	3,634,958	37.46	49	.001180	98,016	116	97,959	3,927,893	40.07
50	.001970	96,855	191	96,759	3,538,014	36.53	50	.001291	97,901	126	97,838	3,829,934	39.12
51	.002121	96,664	205	96,561	3,441,255	35.60	51	.001418	97,774	139	97,705	3,732,097	38.17
52	.002302	96,459	222	96,348	3,344,693	34.67	52	.001558	97,636	152	97,560	3,634,392	37.22
53	.002515	96,237	242	96,116	3,248,345	33.75	53	.001719	97,484	168	97,400	3,536,832	36.28
54	.002756	95,995	265	95,863	3,152,229	32.84	54	.001898	97,316	185	97,224	3,439,432	35.34
55	.003009	95,730	288	95,586	3,056,367	31.93	55	.002089	97,131	203	97,030	3,342,208	34.41
56	.003292	95,442	314	95,285	2,960,780	31.02	56	.002297	96,928	223	96,817	3,245,178	33.48
57	.003604	95,128	343	94,957	2,865,495	30.12	57	.002519	96,706	244	96,584	3,148,361	32.56
58	.003950	94,785	374	94,598	2,770,539	29.23	58	.002755	96,462	266	96,329	3,051,777	31.64
59	.004308	94,411	407	94,207	2,675,941	28.34	59	.002990	96,197	288	96,053	2,955,448	30.72

Born in 2010 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.004687	94,004	441	93,784	2,581,733	27.46	60	.003253	95,909	312	95,753	2,859,395	29.81
61	.005108	93,563	478	93,324	2,487,950	26.59	61	.003539	95,597	338	95,428	2,763,642	28.91
62	.005571	93,086	519	92,826	2,394,625	25.72	62	.003877	95,259	369	95,074	2,668,214	28.01
63	.006058	92,567	561	92,287	2,301,799	24.87	63	.004246	94,889	403	94,688	2,573,140	27.12
64	.006562	92,006	604	91,704	2,209,512	24.01	64	.004644	94,486	439	94,267	2,478,452	26.23
65	.006788	91,402	620	91,092	2,117,808	23.17	65	.004962	94,048	467	93,814	2,384,185	25.35
66	.007377	90,782	670	90,447	2,026,716	22.33	66	.005441	93,581	509	93,326	2,290,371	24.47
67	.008010	90,112	722	89,751	1,936,269	21.49	67	.005971	93,072	556	92,794	2,197,045	23.61
68	.008813	89,390	788	88,997	1,846,517	20.66	68	.006505	92,516	602	92,215	2,104,251	22.74
69	.009659	88,603	856	88,175	1,757,521	19.84	69	.007066	91,914	649	91,590	2,012,035	21.89
70	.010593	87,747	930	87,282	1,669,346	19.02	70	.007678	91,265	701	90,915	1,920,446	21.04
71	.011651	86,817	1,011	86,312	1,582,064	18.22	71	.008386	90,564	759	90,184	1,829,531	20.20
72	.012877	85,806	1,105	85,253	1,495,752	17.43	72	.009211	89,805	827	89,391	1,739,347	19.37
73	.014214	84,701	1,204	84,099	1,410,499	16.65	73	.010126	88,977	901	88,527	1,649,956	18.54
74	.015657	83,497	1,307	82,843	1,326,400	15.89	74	.011103	88,077	978	87,588	1,561,429	17.73
75	.017247	82,190	1,417	81,481	1,243,556	15.13	75	.012194	87,099	1,062	86,568	1,473,841	16.92
76	.019029	80,772	1,537	80,004	1,162,075	14.39	76	.013454	86,037	1,157	85,458	1,387,274	16.12
77	.021042	79,235	1,667	78,402	1,082,072	13.66	77	.014929	84,879	1,267	84,245	1,301,816	15.34
78	.023450	77,568	1,819	76,658	1,003,670	12.94	78	.016664	83,612	1,393	82,915	1,217,571	14.56
79	.026047	75,749	1,973	74,762	927,011	12.24	79	.018516	82,219	1,522	81,457	1,134,655	13.80
80	.028927	73,776	2,134	72,709	852,249	11.55	80	.020611	80,696	1,663	79,865	1,053,198	13.05
81	.032170	71,642	2,305	70,490	779,540	10.88	81	.023080	79,033	1,824	78,121	973,333	12.32
82	.035863	69,337	2,487	68,094	709,051	10.23	82	.026036	77,209	2,010	76,204	895,212	11.59
83	.040782	66,851	2,726	65,487	640,957	9.59	83	.030173	75,199	2,269	74,064	819,009	10.89
84	.046224	64,124	2,964	62,642	575,469	8.97	84	.034975	72,930	2,551	71,654	744,945	10.21
85	.052438	61,160	3,207	59,557	512,827	8.38	85	.040393	70,379	2,843	68,958	673,290	9.57
86	.059696	57,953	3,460	56,223	453,271	7.82	86	.046350	67,536	3,130	65,971	604,333	8.95
87	.067264	54,493	3,665	52,661	397,047	7.29	87	.052773	64,406	3,399	62,706	538,362	8.36
88	.078136	50,828	3,972	48,842	344,387	6.78	88	.062051	61,007	3,786	59,114	475,655	7.80
89	.089453	46,857	4,191	44,761	295,544	6.31	89	.072006	57,221	4,120	55,161	416,541	7.28
90	.103611	42,665	4,421	40,455	250,784	5.88	90	.084158	53,101	4,469	50,867	361,379	6.81
91	.113164	38,244	4,328	36,081	210,329	5.50	91	.092403	48,632	4,494	46,385	310,513	6.38
92	.123361	33,917	4,184	31,825	174,248	5.14	92	.100830	44,139	4,451	41,913	264,127	5.98
93	.136127	29,733	4,047	27,709	142,424	4.79	93	.111456	39,688	4,423	37,476	222,214	5.60
94	.150003	25,685	3,853	23,759	114,715	4.47	94	.122850	35,265	4,332	33,098	184,738	5.24
95	.164999	21,832	3,602	20,031	90,956	4.17	95	.135106	30,932	4,179	28,843	151,639	4.90
96	.181191	18,230	3,303	16,578	70,925	3.89	96	.148252	26,753	3,966	24,770	122,797	4.59
97	.198634	14,927	2,965	13,444	54,346	3.64	97	.162309	22,787	3,699	20,938	98,026	4.30
98	.213612	11,962	2,555	10,684	40,902	3.42	98	.175728	19,088	3,354	17,411	77,089	4.04
99	.229327	9,407	2,157	8,328	30,217	3.21	99	.189830	15,734	2,987	14,241	59,678	3.79
100	.245787	7,250	1,782	6,359	21,889	3.02	100	.204591	12,747	2,608	11,443	45,437	3.56
101	.262979	5,468	1,438	4,749	15,531	2.84	101	.219998	10,139	2,231	9,024	33,994	3.35
102	.280883	4,030	1,132	3,464	10,782	2.68	102	.236033	7,909	1,867	6,975	24,970	3.16
103	.299478	2,898	868	2,464	7,318	2.53	103	.252641	6,042	1,526	5,279	17,994	2.98
104	.318736	2,030	647	1,707	4,854	2.39	104	.269807	4,516	1,218	3,906	12,716	2.82
105	.338619	1,383	468	1,149	3,148	2.28	105	.287480	3,297	948	2,823	8,809	2.67
106	.352705	915	323	753	1,999	2.19	106	.302576	2,349	711	1,994	5,986	2.55
107	.366389	592	217	484	1,246	2.10	107	.317359	1,638	520	1,378	3,992	2.44
108	.379582	375	142	304	762	2.03	108	.331709	1,118	371	933	2,614	2.34
109	.392195	233	91	187	458	1.97	109	.345505	747	258	8	1,681	2.25
110	.402293	141	57	113	271	1.91	110	.357523	489	175	402	1,062	2.17
111	.411548	85	35	67	158	1.87	111	.368675	314	116	256	660	2.10
112	.419890	50	21	39	91	1.82	112	.378858	198	75	161	404	2.04
113	.427256	29	12	23	51	1.78	113	.387972	123	48	99	243	1.97
114	.433590	17	7	13	29	1.74	114	.395928	75	30	61	144	1.91
115	.438841	9	4	7	16	1.68	115	.402646	46	18	36	83	1.83
116	.442970	5	2	4	8	1.60	116	.408059	27	11	22	47	1.73
117	.445943	3	1	2	4	1.48	117	.412112	16	7	13	25	1.57
118	.447737	2	1	1	2	1.27	118	.414761	9	4	8	13	1.33
119	.448338	1	0	1	1	0.90	119	.415981	6	2	4	5	0.91
120	.447740	0	0	0	0	0.22	120	.415759	3	1	1	1	0.21

Born in 2025

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.003964	100,000	396	99,683	8,580,090	85.80	0	.003397	100,000	340	99,728	8,879,089	88.79
1	.000212	99,604	21	99,593	8,480,407	85.14	1	.000223	99,660	22	99,649	8,779,361	88.09
2	.000101	99,583	10	99,577	8,380,814	84.16	2	.000115	99,638	11	99,632	8,679,712	87.11
3	.000106	99,572	11	99,567	8,281,236	83.17	3	.000083	99,627	8	99,622	8,580,079	86.12
4	.000108	99,562	11	99,556	8,181,669	82.18	4	.000062	99,618	6	99,615	8,480,457	85.13
5	.000094	99,551	9	99,546	8,082,112	81.19	5	.000046	99,612	5	99,610	8,380,842	84.13
6	.000073	99,542	7	99,538	7,982,566	80.19	6	.000035	99,608	3	99,606	8,281,232	83.14
7	.000050	99,534	5	99,532	7,883,028	79.20	7	.000031	99,604	3	99,603	8,181,626	82.14
8	.000044	99,530	4	99,527	7,783,496	78.20	8	.000033	99,601	3	99,599	8,082,023	81.14
9	.000044	99,525	4	99,523	7,683,969	77.21	9	.000034	99,598	3	99,596	7,982,424	80.15
10	.000053	99,521	5	99,518	7,584,446	76.21	10	.000047	99,594	5	99,592	7,882,828	79.15
11	.000051	99,515	5	99,513	7,484,927	75.21	11	.000050	99,590	5	99,587	7,783,236	78.15
12	.000074	99,510	7	99,507	7,385,415	74.22	12	.000076	99,585	8	99,581	7,683,649	77.16
13	.000114	99,503	11	99,497	7,285,908	73.22	13	.000095	99,577	9	99,572	7,584,068	76.16
14	.000169	99,492	17	99,483	7,186,410	72.23	14	.000122	99,568	12	99,562	7,484,496	75.17
15	.000230	99,475	23	99,463	7,086,927	71.24	15	.000148	99,555	15	99,548	7,384,934	74.18
16	.000286	99,452	28	99,438	6,987,464	70.26	16	.000176	99,541	18	99,532	7,285,386	73.19
17	.000331	99,424	33	99,407	6,888,026	69.28	17	.000197	99,523	20	99,513	7,185,854	72.20
18	.000364	99,391	36	99,373	6,788,619	68.30	18	.000210	99,504	21	99,493	7,086,341	71.22
19	.000398	99,354	40	99,335	6,689,247	67.33	19	.000216	99,483	22	99,472	6,986,848	70.23
20	.000421	99,315	42	99,294	6,589,912	66.35	20	.000215	99,461	21	99,451	6,887,376	69.25
21	.000439	99,273	44	99,251	6,490,618	65.38	21	.000215	99,440	21	99,429	6,787,925	68.26
22	.000454	99,230	45	99,207	6,391,367	64.41	22	.000213	99,419	21	99,408	6,688,496	67.28
23	.000444	99,185	44	99,162	6,292,160	63.44	23	.000203	99,397	20	99,387	6,589,088	66.29
24	.000424	99,140	42	99,119	6,192,997	62.47	24	.000200	99,377	20	99,367	6,489,701	65.30
25	.000406	99,098	40	99,078	6,093,878	61.49	25	.000198	99,357	20	99,347	6,390,334	64.32
26	.000389	99,058	39	99,039	5,994,799	60.52	26	.000195	99,338	19	99,328	6,290,986	63.33
27	.000375	99,020	37	99,001	5,895,760	59.54	27	.000191	99,318	19	99,309	6,191,658	62.34
28	.000382	98,983	38	98,964	5,796,759	58.56	28	.000205	99,299	20	99,289	6,092,350	61.35
29	.000388	98,945	38	98,926	5,697,796	57.59	29	.000218	99,279	22	99,268	5,993,061	60.37
30	.000404	98,906	40	98,886	5,598,870	56.61	30	.000230	99,257	23	99,246	5,893,792	59.38
31	.000413	98,866	41	98,846	5,499,984	55.63	31	.000250	99,234	25	99,222	5,794,547	58.39
32	.000434	98,826	43	98,804	5,401,138	54.65	32	.000274	99,210	27	99,196	5,695,325	57.41
33	.000456	98,783	45	98,760	5,302,334	53.68	33	.000296	99,182	29	99,168	5,596,129	56.42
34	.000485	98,738	48	98,714	5,203,574	52.70	34	.000325	99,153	32	99,137	5,496,961	55.44
35	.000514	98,690	51	98,664	5,104,860	51.73	35	.000359	99,121	36	99,103	5,397,824	54.46
36	.000548	98,639	54	98,612	5,006,195	50.75	36	.000394	99,085	39	99,066	5,298,721	53.48
37	.000588	98,585	58	98,556	4,907,583	49.78	37	.000431	99,046	43	99,025	5,199,655	52.50
38	.000644	98,527	63	98,495	4,809,027	48.81	38	.000463	99,003	46	98,981	5,100,630	51.52
39	.000703	98,464	69	98,429	4,710,532	47.84	39	.000497	98,958	49	98,933	5,001,650	50.54
40	.000773	98,394	76	98,356	4,612,103	46.87	40	.000536	98,908	53	98,882	4,902,717	49.57
41	.000851	98,318	84	98,277	4,513,747	45.91	41	.000573	98,855	57	98,827	4,803,835	48.59
42	.000941	98,235	92	98,189	4,415,470	44.95	42	.000626	98,799	62	98,768	4,705,008	47.62
43	.001027	98,142	101	98,092	4,317,281	43.99	43	.000673	98,737	66	98,704	4,606,240	46.65
44	.001117	98,042	109	97,987	4,219,189	43.03	44	.000721	98,670	71	98,635	4,507,536	45.68
45	.001215	97,932	119	97,873	4,121,203	42.08	45	.000769	98,599	76	98,561	4,408,901	44.72
46	.001323	97,813	129	97,748	4,023,330	41.13	46	.000829	98,523	82	98,483	4,310,340	43.75
47	.001438	97,684	140	97,613	3,925,582	40.19	47	.000892	98,442	88	98,398	4,211,857	42.79
48	.001541	97,543	150	97,468	3,827,968	39.24	48	.000978	98,354	96	98,306	4,113,459	41.82
49	.001652	97,393	161	97,312	3,730,500	38.30	49	.001065	98,258	105	98,206	4,015,153	40.86
50	.001771	97,232	172	97,146	3,633,188	37.37	50	.001164	98,153	114	98,096	3,916,948	39.91
51	.001907	97,060	185	96,967	3,536,042	36.43	51	.001278	98,039	125	97,976	3,818,852	38.95
52	.002070	96,875	201	96,775	3,439,074	35.50	52	.001404	97,914	137	97,845	3,720,875	38.00
53	.002262	96,674	219	96,565	3,342,300	34.57	53	.001549	97,776	151	97,700	3,623,030	37.05
54	.002478	96,456	239	96,336	3,245,735	33.65	54	.001709	97,625	167	97,541	3,525,330	36.11
55	.002707	96,217	260	96,086	3,149,399	32.73	55	.001881	97,458	183	97,366	3,427,789	35.17
56	.002961	95,956	284	95,814	3,053,312	31.82	56	.002068	97,275	201	97,174	3,330,422	34.24
57	.003242	95,672	310	95,517	2,957,498	30.91	57	.002267	97,074	220	96,963	3,233,248	33.31
58	.003553	95,362	339	95,193	2,861,981	30.01	58	.002479	96,853	240	96,733	3,136,285	32.38
59	.003875	95,023	368	94,839	2,766,788	29.12	59	.002690	96,613	260	96,483	3,039,551	31.46

Born in 2025 (continued)

	Males						Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.004216	94,655	399	94,455	2,671,949	28.23	60	.002927	96,353	282	96,212	2,943,068	30.54
61	.004595	94,256	433	94,039	2,577,494	27.35	61	.003183	96,071	306	95,919	2,846,856	29.63
62	.005012	93,823	470	93,588	2,483,455	26.47	62	.003487	95,766	334	95,599	2,750,937	28.73
63	.005450	93,353	509	93,098	2,389,867	25.60	63	.003818	95,432	364	95,250	2,655,338	27.82
64	.005904	92,844	548	92,570	2,296,769	24.74	64	.004175	95,067	397	94,869	2,560,089	26.93
65	.006112	92,296	564	92,014	2,204,199	23.88	65	.004461	94,670	422	94,459	2,465,220	26.04
66	.006642	91,732	609	91,427	2,112,186	23.03	66	.004891	94,248	461	94,018	2,370,761	25.15
67	.007213	91,122	657	90,794	2,020,759	22.18	67	.005367	93,787	503	93,535	2,276,743	24.28
68	.007936	90,465	718	90,106	1,929,965	21.33	68	.005847	93,284	545	93,011	2,183,208	23.40
69	.008698	89,747	781	89,357	1,839,859	20.50	69	.006353	92,738	589	92,444	2,090,197	22.54
70	.009540	88,967	849	88,542	1,750,502	19.68	70	.006904	92,149	636	91,831	1,997,753	21.68
71	.010492	88,118	925	87,656	1,661,960	18.86	71	.007541	91,513	690	91,168	1,905,922	20.83
72	.011597	87,193	1,011	86,688	1,574,305	18.06	72	.008285	90,823	752	90,447	1,814,754	19.98
73	.012801	86,182	1,103	85,630	1,487,617	17.26	73	.009108	90,070	820	89,660	1,724,308	19.14
74	.014102	85,079	1,200	84,479	1,401,986	16.48	74	.009987	89,250	891	88,804	1,634,647	18.32
75	.015534	83,879	1,303	83,228	1,317,508	15.71	75	.010968	88,359	969	87,874	1,545,843	17.50
76	.017142	82,576	1,415	81,868	1,234,280	14.95	76	.012101	87,390	1,058	86,861	1,457,969	16.68
77	.018956	81,161	1,538	80,391	1,152,412	14.20	77	.013429	86,332	1,159	85,752	1,371,108	15.88
78	.021126	79,622	1,682	78,781	1,072,020	13.46	78	.014991	85,173	1,277	84,534	1,285,355	15.09
79	.023466	77,940	1,829	77,026	993,239	12.74	79	.016657	83,896	1,397	83,197	1,200,821	14.31
80	.026061	76,111	1,984	75,119	916,214	12.04	80	.018544	82,499	1,530	81,734	1,117,624	13.55
81	.028982	74,128	2,148	73,053	841,094	11.35	81	.020765	80,969	1,681	80,128	1,035,890	12.79
82	.032308	71,979	2,326	70,816	768,041	10.67	82	.023425	79,287	1,857	78,359	955,762	12.05
83	.036850	69,654	2,567	68,370	697,225	10.01	83	.027229	77,430	2,108	76,376	877,403	11.33
84	.041892	67,087	2,810	65,682	628,854	9.37	84	.031657	75,322	2,384	74,130	801,027	10.63
85	.047666	64,276	3,064	62,745	563,173	8.76	85	.036673	72,937	2,675	71,600	726,898	9.97
86	.054422	61,213	3,331	59,547	500,428	8.18	86	.042213	70,262	2,966	68,779	655,298	9.33
87	.061506	57,881	3,560	56,101	440,881	7.62	87	.048219	67,297	3,245	65,674	586,518	8.72
88	.072188	54,321	3,921	52,361	384,780	7.08	88	.057295	64,052	3,670	62,217	520,844	8.13
89	.083401	50,400	4,203	48,298	332,419	6.60	89	.067100	60,382	4,052	58,356	458,628	7.60
90	.097636	46,197	4,510	43,941	284,121	6.15	90	.079268	56,330	4,465	54,098	400,272	7.11
91	.106649	41,686	4,446	39,463	240,179	5.76	91	.087053	51,865	4,515	49,607	346,174	6.67
92	.116273	37,240	4,330	35,075	200,716	5.39	92	.095018	47,350	4,499	45,100	296,567	6.26
93	.128271	32,910	4,221	30,800	165,641	5.03	93	.105017	42,851	4,500	40,601	251,466	5.87
94	.141311	28,689	4,054	26,662	134,841	4.70	94	.115738	38,351	4,439	36,131	210,865	5.50
95	.155403	24,635	3,828	22,721	108,179	4.39	95	.127269	33,912	4,316	31,754	174,734	5.15
96	.170619	20,806	3,550	19,031	85,459	4.11	96	.139636	29,596	4,133	27,530	142,980	4.83
97	.187008	17,257	3,227	15,643	66,427	3.85	97	.152858	25,464	3,892	23,517	115,450	4.53
98	.201106	14,029	2,821	12,619	50,784	3.62	98	.165495	21,571	3,570	19,786	91,932	4.26
99	.215899	11,208	2,420	9,998	38,166	3.41	99	.178775	18,001	3,218	16,392	72,146	4.01
100	.231393	8,788	2,034	7,771	28,167	3.21	100	.192675	14,783	2,848	13,359	55,754	3.77
101	.247578	6,755	1,672	5,919	20,396	3.02	101	.207183	11,935	2,473	10,698	42,395	3.55
102	.264434	5,082	1,344	4,410	14,477	2.85	102	.222282	9,462	2,103	8,410	31,697	3.35
103	.281943	3,738	1,054	3,211	10,067	2.69	103	.237921	7,359	1,751	6,483	23,286	3.16
104	.300078	2,684	806	2,282	6,856	2.55	104	.254083	5,608	1,425	4,896	16,803	3.00
105	.318803	1,879	599	1,579	4,574	2.43	105	.270724	4,183	1,132	3,617	11,907	2.85
106	.332071	1,280	425	1,067	2,995	2.34	106	.284938	3,051	869	2,616	8,290	2.72
107	.344963	855	295	707	1,927	2.25	107	.298858	2,181	652	1,855	5,674	2.60
108	.357392	560	200	460	1,220	2.18	108	.312370	1,529	478	1,291	3,819	2.50
109	.369274	360	133	293	760	2.11	109	.325360	1,052	342	881	2,528	2.40
110	.378789	227	86	184	467	2.06	110	.336674	710	239	590	1,648	2.32
111	.387508	141	55	114	283	2.00	111	.347174	471	163	389	1,058	2.25
112	.395368	86	34	69	169	1.96	112	.356761	307	110	252	669	2.18
113	.402309	52	21	42	100	1.91	113	.365341	198	72	162	416	2.11
114	.408277	31	13	25	58	1.85	114	.372831	125	47	102	255	2.03
115	.413226	18	8	15	33	1.79	115	.379156	79	30	64	153	1.94
116	.417117	11	5	9	18	1.70	116	.384252	49	19	39	89	1.82
117	.419919	6	3	5	10	1.55	117	.388067	30	12	24	49	1.64
118	.421610	4	2	3	5	1.32	118	.390561	18	7	15	25	1.37
119	.422177	2	1	2	2	0.91	119	.391710	11	4	9	10	0.92
120	.421615	1	1	0	0	0.21	120	.391500	7	3	1	1	0.20

Born in 2050

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
0	.003297	100,000	330	99,736	8,738,275	87.38	0	.002836	100,000	284	99,773	9,022,429	90.22
1	.000176	99,670	18	99,661	8,638,539	86.67	1	.000187	99,716	19	99,707	8,922,656	89.48
2	.000085	99,653	8	99,648	8,538,877	85.69	2	.000096	99,698	10	99,693	8,822,949	88.50
3	.000089	99,644	9	99,640	8,439,229	84.69	3	.000070	99,688	7	99,685	8,723,256	87.51
4	.000090	99,635	9	99,631	8,339,589	83.70	4	.000052	99,681	5	99,679	8,623,571	86.51
5	.000078	99,626	8	99,622	8,239,958	82.71	5	.000038	99,676	4	99,674	8,523,892	85.52
6	.000061	99,619	6	99,616	8,140,336	81.72	6	.000029	99,672	3	99,671	8,424,218	84.52
7	.000041	99,613	4	99,610	8,040,720	80.72	7	.000026	99,669	3	99,668	8,324,547	83.52
8	.000037	99,608	4	99,607	7,941,110	79.72	8	.000027	99,667	3	99,665	8,224,879	82.52
9	.000036	99,605	4	99,603	7,841,503	78.73	9	.000029	99,664	3	99,663	8,125,214	81.53
10	.000044	99,601	4	99,599	7,741,900	77.73	10	.000039	99,661	4	99,659	8,025,551	80.53
11	.000043	99,597	4	99,595	7,642,301	76.73	11	.000041	99,657	4	99,655	7,925,892	79.53
12	.000062	99,592	6	99,589	7,542,707	75.74	12	.000063	99,653	6	99,650	7,826,237	78.53
13	.000096	99,586	10	99,582	7,443,117	74.74	13	.000080	99,647	8	99,643	7,726,587	77.54
14	.000142	99,577	14	99,570	7,343,536	73.75	14	.000102	99,639	10	99,634	7,626,944	76.55
15	.000193	99,563	19	99,553	7,243,966	72.76	15	.000124	99,629	12	99,623	7,527,310	75.55
16	.000239	99,543	24	99,532	7,144,413	71.77	16	.000148	99,616	15	99,609	7,427,687	74.56
17	.000278	99,520	28	99,506	7,044,881	70.79	17	.000166	99,602	16	99,593	7,328,078	73.57
18	.000305	99,492	30	99,477	6,945,375	69.81	18	.000176	99,585	18	99,576	7,228,485	72.59
19	.000334	99,462	33	99,445	6,845,899	68.83	19	.000182	99,568	18	99,559	7,128,908	71.60
20	.000353	99,428	35	99,411	6,746,453	67.85	20	.000180	99,550	18	99,541	7,029,350	70.61
21	.000369	99,393	37	99,375	6,647,043	66.88	21	.000180	99,532	18	99,523	6,929,809	69.62
22	.000381	99,357	38	99,338	6,547,668	65.90	22	.000179	99,514	18	99,505	6,830,286	68.64
23	.000373	99,319	37	99,300	6,448,330	64.93	23	.000170	99,496	17	99,487	6,730,782	67.65
24	.000356	99,282	35	99,264	6,349,030	63.95	24	.000168	99,479	17	99,471	6,631,294	66.66
25	.000341	99,246	34	99,229	6,249,766	62.97	25	.000166	99,462	16	99,454	6,531,824	65.67
26	.000326	99,213	32	99,196	6,150,536	61.99	26	.000164	99,446	16	99,438	6,432,370	64.68
27	.000314	99,180	31	99,165	6,051,340	61.01	27	.000160	99,429	16	99,422	6,332,932	63.69
28	.000320	99,149	32	99,133	5,952,175	60.03	28	.000171	99,414	17	99,405	6,233,510	62.70
29	.000325	99,117	32	99,101	5,853,042	59.05	29	.000183	99,397	18	99,387	6,134,105	61.71
30	.000339	99,085	34	99,068	5,753,941	58.07	30	.000193	99,378	19	99,369	6,034,718	60.72
31	.000347	99,052	34	99,034	5,654,872	57.09	31	.000209	99,359	21	99,349	5,935,349	59.74
32	.000363	99,017	36	98,999	5,555,838	56.11	32	.000229	99,338	23	99,327	5,836,000	58.75
33	.000383	98,981	38	98,962	5,456,839	55.13	33	.000248	99,316	25	99,303	5,736,673	57.76
34	.000407	98,943	40	98,923	5,357,877	54.15	34	.000272	99,291	27	99,278	5,637,370	56.78
35	.000431	98,903	43	98,882	5,258,953	53.17	35	.000301	99,264	30	99,249	5,538,092	55.79
36	.000460	98,860	45	98,838	5,160,072	52.20	36	.000331	99,234	33	99,218	5,438,843	54.81
37	.000493	98,815	49	98,791	5,061,234	51.22	37	.000362	99,201	36	99,183	5,339,625	53.83
38	.000541	98,766	53	98,740	4,962,443	50.24	38	.000389	99,166	39	99,146	5,240,442	52.85
39	.000589	98,713	58	98,684	4,863,703	49.27	39	.000417	99,127	41	99,106	5,141,295	51.87
40	.000648	98,655	64	98,623	4,765,020	48.30	40	.000450	99,086	45	99,063	5,042,189	50.89
41	.000713	98,591	70	98,556	4,666,397	47.33	41	.000481	99,041	48	99,017	4,943,126	49.91
42	.000788	98,520	78	98,482	4,567,841	46.36	42	.000525	98,993	52	98,967	4,844,108	48.93
43	.000861	98,443	85	98,400	4,469,360	45.40	43	.000565	98,942	56	98,914	4,745,141	47.96
44	.000936	98,358	92	98,312	4,370,959	44.44	44	.000605	98,886	60	98,856	4,646,227	46.99
45	.001018	98,266	100	98,216	4,272,647	43.48	45	.000646	98,826	64	98,794	4,547,372	46.01
46	.001108	98,166	109	98,112	4,174,431	42.52	46	.000697	98,762	69	98,728	4,448,578	45.04
47	.001204	98,057	118	97,998	4,076,319	41.57	47	.000750	98,693	74	98,656	4,349,850	44.07
48	.001292	97,939	126	97,876	3,978,321	40.62	48	.000822	98,619	81	98,579	4,251,194	43.11
49	.001384	97,813	135	97,745	3,880,445	39.67	49	.000895	98,538	88	98,494	4,152,616	42.14
50	.001484	97,677	145	97,605	3,782,700	38.73	50	.000978	98,450	96	98,402	4,054,122	41.18
51	.001599	97,532	156	97,454	3,685,095	37.78	51	.001073	98,353	106	98,301	3,955,720	40.22
52	.001735	97,376	169	97,292	3,587,641	36.84	52	.001179	98,248	116	98,190	3,857,419	39.26
53	.001896	97,207	184	97,115	3,490,349	35.91	53	.001300	98,132	128	98,068	3,759,229	38.31
54	.002078	97,023	202	96,922	3,393,234	34.97	54	.001434	98,005	141	97,934	3,661,161	37.36
55	.002269	96,821	220	96,712	3,296,312	34.05	55	.001579	97,864	154	97,787	3,563,227	36.41
56	.002483	96,602	240	96,482	3,199,600	33.12	56	.001735	97,709	170	97,625	3,465,440	35.47
57	.002718	96,362	262	96,231	3,103,118	32.20	57	.001902	97,540	186	97,447	3,367,815	34.53
58	.002979	96,100	286	95,957	3,006,887	31.29	58	.002080	97,354	202	97,253	3,270,368	33.59
59	.003249	95,814	311	95,658	2,910,930	30.38	59	.002257	97,152	219	97,042	3,173,115	32.66

Born in 2050 (continued)

Males							Females						
x	q_x	l_x	d_x	L_x	T_x	e_x	x	q_x	l_x	d_x	L_x	T_x	e_x
60	.003536	95,502	338	95,334	2,815,272	29.48	60	.002454	96,933	238	96,814	3,076,072	31.73
61	.003854	95,165	367	94,981	2,719,939	28.58	61	.002670	96,695	258	96,566	2,979,259	30.81
62	.004204	94,798	398	94,599	2,624,957	27.69	62	.002924	96,437	282	96,296	2,882,693	29.89
63	.004571	94,399	432	94,184	2,530,359	26.80	63	.003201	96,155	308	96,001	2,786,397	28.98
64	.004952	93,968	465	93,735	2,436,175	25.93	64	.003501	95,847	336	95,679	2,690,396	28.07
65	.005129	93,503	480	93,263	2,342,440	25.05	65	.003739	95,511	357	95,333	2,594,717	27.17
66	.005574	93,023	518	92,764	2,249,177	24.18	66	.004100	95,154	390	94,959	2,499,384	26.27
67	.006053	92,505	560	92,225	2,156,413	23.31	67	.004498	94,764	426	94,551	2,404,425	25.37
68	.006660	91,945	612	91,638	2,064,188	22.45	68	.004902	94,338	462	94,107	2,309,874	24.49
69	.007300	91,332	667	90,999	1,972,550	21.60	69	.005326	93,875	500	93,625	2,215,767	23.60
70	.008007	90,666	726	90,303	1,881,551	20.75	70	.005788	93,376	540	93,105	2,122,142	22.73
71	.008807	89,940	792	89,544	1,791,248	19.92	71	.006323	92,835	587	92,542	2,029,037	21.86
72	.009734	89,147	868	88,714	1,701,705	19.09	72	.006947	92,248	641	91,928	1,936,495	20.99
73	.010746	88,280	949	87,805	1,612,991	18.27	73	.007637	91,607	700	91,257	1,844,567	20.14
74	.011838	87,331	1,034	86,814	1,525,186	17.46	74	.008375	90,908	761	90,527	1,753,310	19.29
75	.013041	86,297	1,125	85,735	1,438,372	16.67	75	.009198	90,146	829	89,732	1,662,783	18.45
76	.014391	85,172	1,226	84,559	1,352,637	15.88	76	.010148	89,317	906	88,864	1,573,051	17.61
77	.015915	83,946	1,336	83,278	1,268,078	15.11	77	.011261	88,411	996	87,913	1,484,187	16.79
78	.017737	82,610	1,465	81,878	1,184,800	14.34	78	.012572	87,415	1,099	86,866	1,396,275	15.97
79	.019702	81,145	1,599	80,346	1,102,922	13.59	79	.013970	86,316	1,206	85,713	1,309,409	15.17
80	.021881	79,546	1,741	78,676	1,022,576	12.86	80	.015553	85,110	1,324	84,448	1,223,696	14.38
81	.024334	77,806	1,893	76,859	943,900	12.13	81	.017416	83,787	1,459	83,057	1,139,247	13.60
82	.027125	75,912	2,059	74,883	867,041	11.42	82	.019647	82,327	1,617	81,519	1,056,190	12.83
83	.031094	73,853	2,296	72,705	792,158	10.73	83	.022954	80,710	1,853	79,784	974,672	12.08
84	.035526	71,557	2,542	70,286	719,453	10.05	84	.026821	78,857	2,115	77,800	894,888	11.35
85	.040625	69,015	2,804	67,613	649,167	9.41	85	.031227	76,742	2,396	75,544	817,088	10.65
86	.046613	66,211	3,086	64,668	581,555	8.78	86	.036129	74,346	2,686	73,003	741,544	9.97
87	.052947	63,125	3,342	61,454	516,887	8.19	87	.041484	71,660	2,973	70,173	668,542	9.33
88	.063232	59,783	3,780	57,892	455,433	7.62	88	.050166	68,687	3,446	66,964	598,368	8.71
89	.074168	56,002	4,154	53,926	397,541	7.10	89	.059648	65,241	3,892	63,296	531,404	8.15
90	.088373	51,849	4,582	49,558	343,615	6.63	90	.071723	61,350	4,400	59,150	468,108	7.63
91	.096540	47,267	4,563	44,985	294,057	6.22	91	.078781	56,950	4,487	54,706	408,959	7.18
92	.105260	42,704	4,495	40,456	249,072	5.83	92	.086006	52,463	4,512	50,207	354,253	6.75
93	.116098	38,209	4,436	35,991	208,616	5.46	93	.095047	47,951	4,558	45,672	304,046	6.34
94	.127877	33,773	4,319	31,613	172,625	5.11	94	.104740	43,393	4,545	41,121	258,374	5.95
95	.140607	29,454	4,141	27,383	141,012	4.79	95	.115165	38,848	4,474	36,611	217,253	5.59
96	.154352	25,313	3,907	23,359	113,629	4.49	96	.126345	34,374	4,343	32,203	180,641	5.26
97	.169155	21,405	3,621	19,595	90,270	4.22	97	.138297	30,031	4,153	27,955	148,439	4.94
98	.181904	17,785	3,235	16,167	70,675	3.97	98	.149729	25,878	3,875	23,941	120,484	4.66
99	.195283	14,550	2,841	13,129	54,508	3.75	99	.161743	22,003	3,559	20,224	96,543	4.39
100	.209297	11,708	2,451	10,483	41,379	3.53	100	.174319	18,444	3,215	16,837	76,319	4.14
101	.223936	9,258	2,073	8,221	30,896	3.34	101	.187443	15,229	2,855	13,802	59,482	3.91
102	.239182	7,185	1,718	6,325	22,674	3.16	102	.201102	12,375	2,489	11,130	45,681	3.69
103	.255020	5,466	1,394	4,769	16,349	2.99	103	.215249	9,886	2,128	8,822	34,550	3.49
104	.271426	4,072	1,105	3,520	11,580	2.84	104	.229870	7,758	1,783	6,866	25,728	3.32
105	.288367	2,967	856	2,539	8,060	2.72	105	.244923	5,975	1,463	5,243	18,862	3.16
106	.300374	2,111	634	1,794	5,521	2.62	106	.257782	4,511	1,163	3,930	13,619	3.02
107	.312040	1,477	461	1,247	3,727	2.52	107	.270374	3,348	905	2,896	9,689	2.89
108	.323287	1,016	329	852	2,480	2.44	108	.282597	2,443	690	2,098	6,793	2.78
109	.334041	688	230	573	1,628	2.37	109	.294348	1,753	516	1,495	4,695	2.68
110	.342651	458	157	380	1,056	2.30	110	.304582	1,237	377	1,048	3,200	2.59
111	.350543	301	106	248	676	2.25	111	.314080	860	270	725	2,152	2.50
112	.357657	196	70	161	428	2.19	112	.322751	590	190	495	1,427	2.42
113	.363939	126	46	103	267	2.13	113	.330512	400	132	334	932	2.33
114	.369341	80	30	65	164	2.06	114	.337287	267	90	222	599	2.24
115	.373821	50	19	41	99	1.97	115	.343008	177	61	147	376	2.12
116	.377343	32	12	26	58	1.85	116	.347617	116	40	96	229	1.97
117	.379880	20	7	16	33	1.67	117	.351068	76	27	63	133	1.75
118	.381411	12	5	10	17	1.38	118	.353324	49	17	41	70	1.43
119	.381925	8	3	6	7	0.93	119	.354362	32	11	26	30	0.94
120	.381416	5	2	1	1	0.19	120	.354172	21	7	4	4	0.18

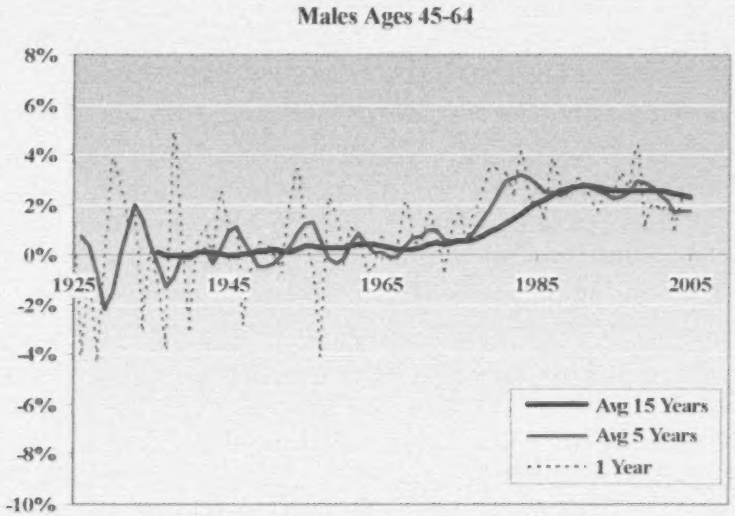
Appendix C Comparison of Moving Averages of Mortality Improvement Rates

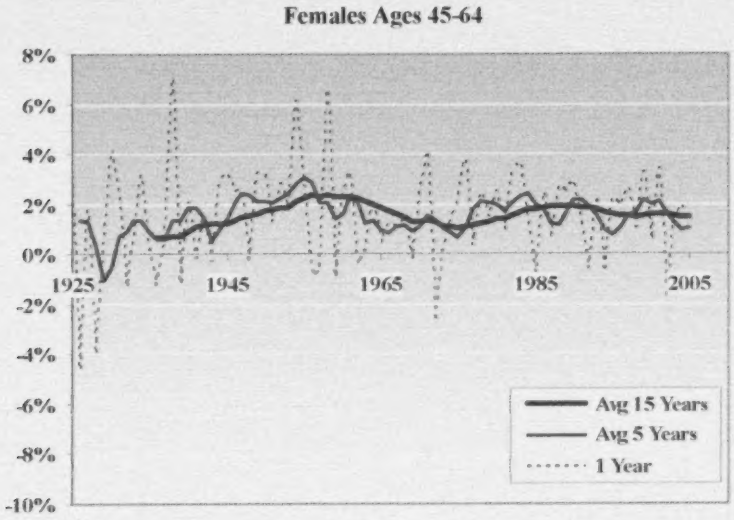
This appendix shows for each gender, a comparison of average annual mortality improvement rates using 1, 5, and 15-years moving averages for age-groups 45-64, 65-84 and 85-89. It is noted that the 15-year moving averages are more suited to use on a long term basis, as the trends in mortality improvements show less volatility the higher the number of years is used in the moving averages. Graphs 36 through 38 clearly illustrate this volatility.

Age-group 45-64

Males in this age category have experienced average annual mortality improvement rates of less than 0.5% up to the 15-year period 1955-1970. Since then, male average annual mortality improvement rates have increased to reach a level of about 2.8% in the period 1975-1990 and then decreased to about 2.3% in the period 1990-2005. Females in this age group have experienced less variability than males as their average annual improvement rates have been in the range of 1% to 2% over the period from 1936 to 2005. For females, average annual mortality improvement rates have declined from about 2% for the period 1970-1985 to about 1.5% for the most recent 15-year period 1990-2005.

Chart 36 Moving Averages of Annual Mortality Improvement Rates – Age-Group 45-64

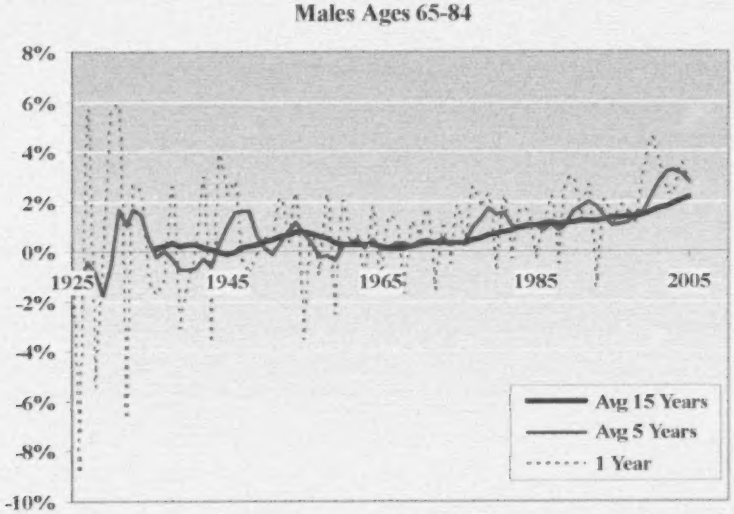


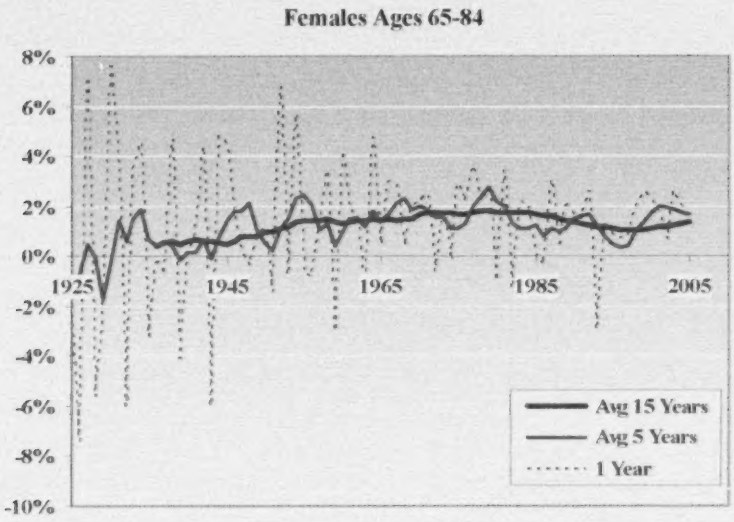


Age-group 65-84

Up to the 15-year period 1960-1975, males in this age category experienced little mortality improvement. Since then, males have experienced increasing average annual mortality improvement rates. Females in this age group have experienced greater mortality improvement rates than males up to 1975-1990.

Chart 37 Moving Averages of Annual Mortality Improvement Rates – Age-Group 65-84

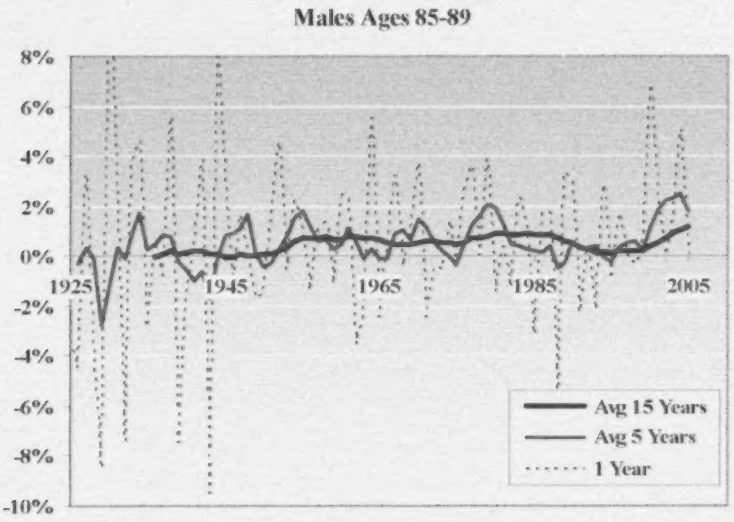




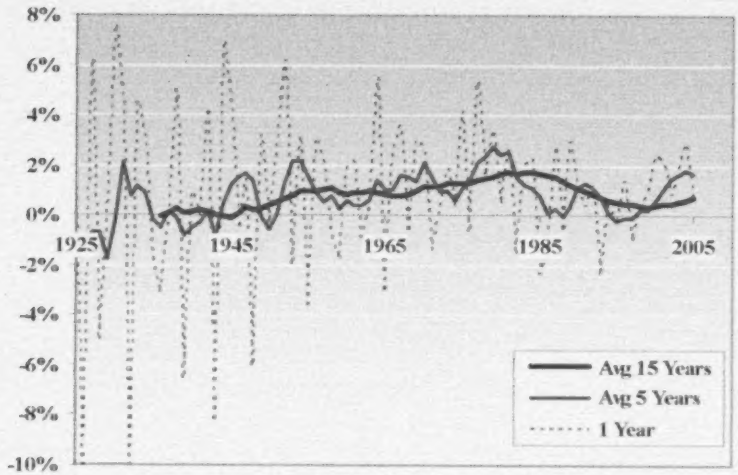
Age-group 85-89

There is little variation in the average annual mortality improvement rate experienced for this age-group. The mortality improvement rate for both subgroups is lower than experienced by the younger subgroups reflecting the "squaring" characteristics of the survival curves.

Chart 38 Moving Averages of Annual Mortality Improvement Rates – Age-Group 85-89



Females Ages 85-89



Appendix D Derivation of Annual Crude Mortality Rates

The derivation of the annual crude mortality rate is based on the Product Limit Estimator (PLE) also known as Kaplan-Meier estimator.

The rate of mortality to be estimated for a certain age *x* and a certain calendar year *y is expressed as* q_x^Y. And let p_x^Y be the corresponding survival rate.

The age interval *x* is divided into 24 sub-intervals of half a month on the age dimension. For each entry in the database it is determined whether the data indicates that there are some exposures to any of the 24 sub-age intervals. For each of these 24 intervals *i*=1 to 24, the number of individuals $N_x^Y(i)$ at the beginning of the interval aged *x* (age last birthday), and the number $D_x^Y(i)$ of individuals who died from the $N_x^Y(i)$ in that interval *i*. For a given age interval *i*, the corresponding $S(i)$ survival rate ratio is $\frac{\left(N_x^Y(i) - D_x^Y(i)\right)}{N_x^Y(i)}$. The PLE estimator of p_x^Y is the product of the 24 ratios i.e. $\prod_{i=1}^{24} S(i)$ or $\prod_{i=1}^{24} \frac{\left(N_x^Y(i) - D_x^Y(i)\right)}{N_x^Y(i)}$. The corresponding mortality rate q_x^Y is therefore $(1 - p_x^Y)$.

Calculation of the Crude Base Mortality Rate

For simplicity, the crude base mortality rate is computed for the age *x* (age last birthday) and the base calendar year *y and is expressed a* q_x^Y. Further, in its estimation there are "n" crude annual mortality rates $\{ q_x^{y_i}$; for y_i=y_1 to $y_n\}$ that are estimated by the Product Limit Estimator method.

Our mathematical model will assume that for those "n" rates, the underlying "true" rates $q_x'^{y_i}$ will follow a simple formula based on a base rate and an average multiplicative improvement factor (IMF). A simple curve is fitted through weighted least-squares regression. Assuming the base year is 2005, the basic model is as follow:

$$q_x'^{y_i} = q_x^{2005\,Base} \times \left(IMF_x\right)^{y_i - 2005}$$

$$\ln\left(q_x'^{y_i}\right) = \ln\left(q_x^{2005\,Base}\right) + \left(y_i - 2005\right) \times \ln\left(IMF_x\right)$$

The equation above is a simple linear equation of the form C = $A + Bz + \varepsilon$, where the constants *A* and *B* are $\ln\left(q_x^{2005\,Base}\right)$, $\ln\left(IMF_x\right)$ and ε the random error.

The least-squares regression minimizes $\sum_{i=1997}^{2005} w_i (C_i - A + Bz_i)^2$ where the weights w_i are the exposure population. After calculation, $q_x^{2005\,Base} = e^A$ is obtained by a transformation of variables.

Appendix E Decomposition of Increase in Life Expectancy by Age Group

Sensitivity of the life expectancy and its application to the estimation of its changes with ages.

The symbol for the complete life expectancy at birth is $\overset{\circ}{e}_0$ and the discrete life expectancy at birth is e_0.

The difference between $\overset{\circ}{e}_0$ and e_0 is small. It can be assumed that the variation between two close values of $\overset{\circ}{e}_0$, defined by $\Delta\overset{\circ}{e}_0$ will be acceptably approximated by the corresponding difference Δe_0.

Let us define e_0 in terms of the survival function, i.e. $e_0 = \sum_{t=1}^{\infty} {}_t p_0 = \sum_{t=1}^{\infty} S(t)$.

Similarly, $e_x = \sum_{t=1}^{\infty} {}_t p_x = \dfrac{\sum_{t=x+1}^{\infty} S(t)}{S(x)}$.

Our goal is to develop a formula that will equate Δe_0 as a function of the change in a particular p_x.

Through further development, the following is obtained:

$e_0 = \sum_{t=1}^{x} S(t) + \sum_{x+1}^{\infty} S(t)$. Let $A = \sum_{t=1}^{x} S(t)$.

$e_0 = A + \sum_{x+1}^{\infty} S(t) = A + S(x)e_x = A + S(x)p_x[1 + e_{x+1}]$

The above formula will be used to develop the change in e_0 due to the change in p_x.

Let $e_0' = A + \sum_{x+1}^{\infty} S(t) = A + S(x)e_x = A + S(x)\,p_x'[1 + e_{x+1}]$, be different from e_0 only because of the new p_x'.

$\Delta e_0 = e_0' - e_0 = (p_x' - p_x)S(x)[1 + e_{x+1}]$.

If $\Delta p_x = p_x' - p_x$, then $\Delta e_0 = \Delta p_x S(x)[1 + e_{x+1}] \Rightarrow \dfrac{\Delta e_0}{\Delta p_x} = S(x)[1 + e_{x+1}]$ is obtained.

By defining the improvement rate of change in q_x as $-\Delta q_x / q_x$,

the result is $\frac{\Delta e_0}{-\Delta q_x / q_x} = \frac{\Delta e_0}{\Delta p_x} q_x = q_x S(x)[1 + e_{x+1}] = \frac{d_x}{l_0}[1 + e_{x+1}]$, which is the formula used to obtain the numbers in Chart 39.

Estimation of the contribution by age in the change in life expectancy at birth

The formula previously developed can be used to estimate the marginal contribution by age to the change in life expectancy at birth between two years.

The "forward incremental" marginal contribution by age to the change in life expectancy at birth between two successive years y and $y+1$ is defined to be

$$F^y(x) = \underset{y}{\Delta} e_0(x) = e_0^{y+1}(x) - e_0^{y+1}(x) = \underset{y}{\Delta} p_x S^y(x)[1 + e_{x+1}^y]$$

with $\underset{y}{\Delta} p_x = p_x^{y+1} - p_x^y$.

Then, to estimate the same marginal contribution between the years y_1 and y_2, simply sum the forward incremental values found above for the years between years y_1 and y_2, i.e.

$F(x) = \sum_{y=y_1}^{y_2-1} F^y(x)$

Another estimate could be obtained by using a backward method.

The "backward incremental" marginal contribution by age to the change in life expectancy at birth between two successive years y-1 and y is defined to be

$$B^y(x) = \underset{y}{\nabla} e_0(x) = e_0^y(x) - e_0^{y-1}(x) = \underset{y}{\nabla} p_x S^y(x)[1 + e_{x+1}^y]$$

with $\underset{y}{\nabla} p_x = p_x^y - p_x^{y-1}$.

Then to estimate the "backward" marginal contribution between the years y_1 and y_2 we will simply sum the backward incremental values found above for the years between years y_1 and y_2, i.e.

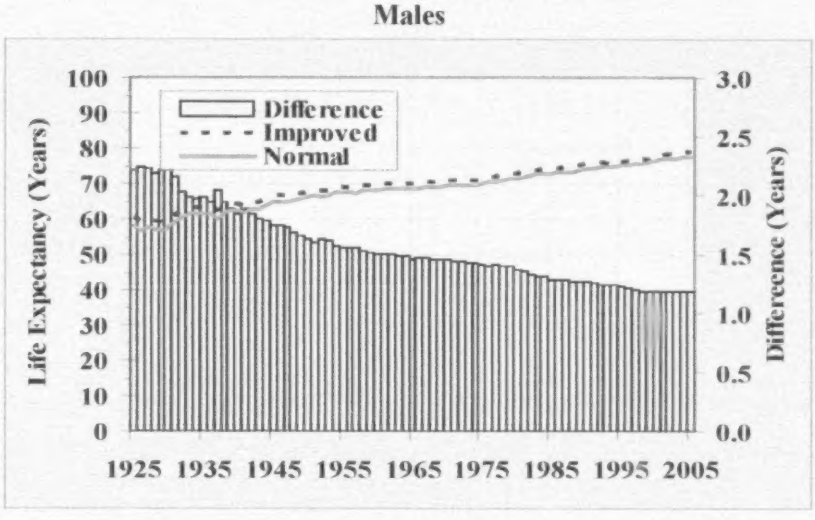
$B(x) = \sum_{y=y_1+1}^{y_2} B^y(x)$

Our final estimate is then the average of the forward and backward method.

Appendix F Sensitivity of Life Expectancy to a 10% Mortality Improvement

Chart 39 provides an overview of the increase in life expectancy at birth that would have occurred over the period from 1925 to 2005 under a scenario where mortality rates are reduced by 10% at all ages in each of these years. The increase in life expectancy for any given year resulting from the additional 10% mortality improvement decreases over the period from 1925 to 2005. For males, the resulting increase in life expectancy generally decreases from 2.2 in 1925 to 1.2 years in 2005. For females, the resulting increase in life expectancy at birth decreases from 2.1 in 1925 to 1.1 years in 2005. The lower increase in life expectancy for females is due to the fact that mortality rates for females are lower than for males. Under the current mortality pattern it is estimated that a 10% reduction in mortality at all ages would lead to an increase in life expectancy at birth of about one year.

Chart 39 Increase in Life Expectancy at Birth Under a 10% Mortality Improvement



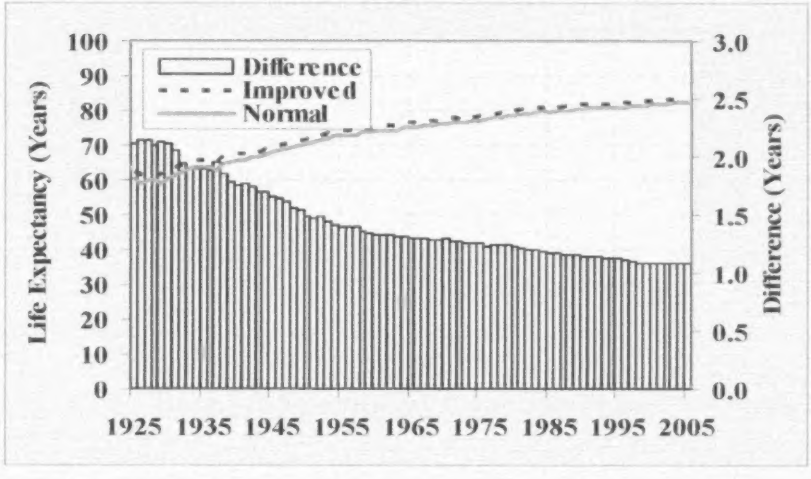
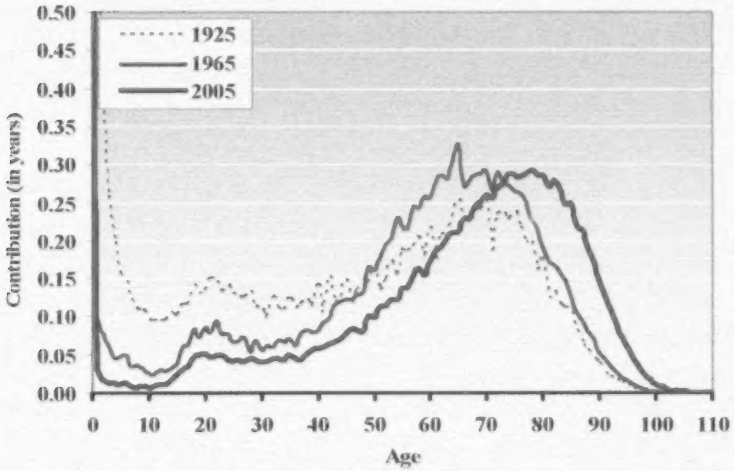


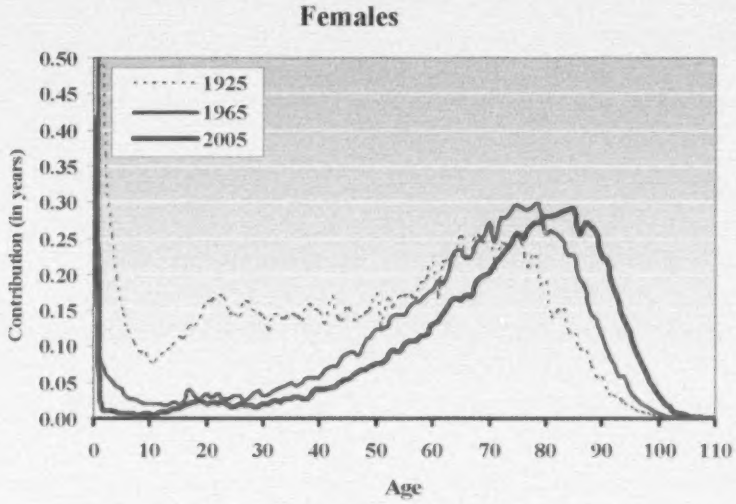
Chart 40 provides an analysis of the estimated marginal instantaneous rate change in life expectancy at birth (Δe_0) to mortality rate change by age (x) only for both genders in 1925, 1965 and 2005 by using and transforming the equivalence formula $\Delta e_0 = (p'_x - p_x)S(x)[1 + e_{x+1}]$ which leads to $\frac{\Delta e_0}{-\Delta q_x / q_x} = \frac{\Delta e_0}{\Delta p_x} q_x = q_x S(x)[1 + e_{x+1}] = (S(x) - S(x+1))[1 + e_{x+1}]$, where p_x is the probability of survival before taking account of mortality improvement, p'_x is a new probability of survival .

It is possible to estimate the increase in life expectancy at birth to a given overall single mortality improvement rate by taking the product of the estimated areas under each curve times a hypothetical single mortality improvement rate applied to all ages. As an example, because the estimated area below the curve for females at year 1925 is 21.1, an improvement of 10% in the mortality over all the ages would generate an increase in life expectancy at birth of 2.1 (i.e. 21.1 × 10%). This result is consistent with Chart 40 where life expectancy at birth increased from 60.5 to 62.6 in 1925 for females.

Chart 40 Contribution to Life Expectancy at Birth by Age

Males





As discussed in Appendix E, using the area below each curve of Chart 40 as a proxy for the contributions to the life expectancy at birth by age for years 1925, 1965 and 2005, it can be concluded that for both genders the contribution to the life expectancy at birth of those aged 44 and below has decreased over time while the contribution from those aged 45 and over has increased. As it is expected that the peak of these curves will continue to show a displacement toward older ages it can be concluded that future life expectancies at birth will increase over time but at a slower rate.

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